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Vol. 7 *October 3, 1947* No. 1

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UNITED STATES DEPARTMENT OF COMMERCE
OFFICE OF TECHNICAL SERVICES

BIBLIOGRAPHY OF SCIENTIFIC AND INDUSTRIAL REPORTS

Vol. 7 October 3, 1947 No. 1

CONTENTS

CHEMICALS AND ALLIED PRODUCTS....1 - 34
DRUGS AND PHARMACEUTICALS....1 - 10
DYES....10 - 21
PAINTS, VARNISHES AND LACQUERS....21
CHEMICAL ENGINEERING AND EQUIPMENT....21
MISCELLANEOUS CHEMICALS....21 - 34

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES....34 - 38, 67 - 79
COMMUNICATION EQUIPMENT....34 - 35
ELECTRONICS....35 - 38

FOOD AND KINDRED PRODUCTS....38 - 39

HIGHWAYS AND BRIDGES....39 - 40

LUMBER AND WOOD PRODUCTS....40

MACHINERY (EXCEPT ELECTRICAL)....40 - 42, 79

METALS AND METAL PRODUCTS....42 - 53

MINERALS AND MINERAL PRODUCTS....53 - 54

PACKING AND PACKAGING....54

PERSONNEL APTITUDE TESTING AND JOB TRAINING....54 - 55

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)....55 - 60

PHYSICS....61
NUCLEAR....61

TEXTILES AND TEXTILE PRODUCTS....61 - 62

TRANSPORTATION EQUIPMENT....62 - 64
AERONAUTICS....62
LAND TRANSPORTATION....63
MARINE TRANSPORTATION....63 - 64

MISCELLANEOUS....64 - 67

PATENTS....67 - 79
ELECTRICAL MACHINERY, EQUIPMENT AND SUPPLIES....67 - 79
MACHINERY (EXCEPT ELECTRICAL)....79

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE....80 - 91

PUBLICATIONS ISSUED BY OFFICE OF TECHNICAL SERVICES....92 - 94

* Indicates that reports in the BIOS, CIOS and FIAT series are deposited in the Library of Congress Depository Libraries. For a complete list of these libraries, see page facing page 1, volume 5, of this Bibliography.

In addition to the indexes described on the back cover of this Bibliography, the Office of Technical Services has published the following reference works:

PB L 58101. SWIFT, GRACE. Government document series, analyzed by Office of Technical Services. Jan 1947. 46 p. Price: 25¢

PB L 78000. LOWRY, W. KENNETH. OSRD reports: Bibliography and index of declassified reports having OSRD numbers. Jun 1947. 105 p. Price: 75¢

PB L 79322. SWIFT, GRACE and ORNE, JERROLD. Subject headings for technical libraries. Jun 1947. 167 p. Price: $1.50

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CHEMICALS AND ALLIED PRODUCTS

Drugs and Pharmaceuticals

PB L 79337. GREAT BRITAIN. MINISTRY OF AGRICULTURE AND FISHERIES. Cultivation of medicinal plants: 3rd ed., rev. Mar 1947. (Bulletin 121; British Commonwealth Scientific Office Rept 120-B1-87). Mar 1947. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00
Because the usual source of supply of many medicinal plants has been cut off, advice is presented for home cultivation of the plants. 27 plants from aconite to valerian are discussed.

PB L 79646. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Chemical studies on penicillin and related compounds. Status of work as of Dec 30, 1943. (Abbott Rept A 1). 1943. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report is an attempt to summarize and coordinate the detailed experimental data obtained from a study of the crystalline sodium salt of penicillin and its degradation products, and to indicate the status of the work aimed toward their synthesis. Abbott Laboratories.

PB L 79647. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Dec 31, 1943-Jan 14, 1944. (Abbott Rept A 2). Jan 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
A progress report covering work on the following: purification of penicillins, stability of penicillin G, methyl ester of penicillin G, penicilloic acid G monomethyl ester, hydrolysis of penicillin G, phenaceturic acid azlactone, and addition of thioacetic acid to unsaturated compounds. Abbott Laboratories.

PB L 79648. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Feb 14, 1944. (Abbott Rept A 3). Feb 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This progress report summarizes the work done in: stability experiments, methanol degradation of sodium penicillin, and synthesis of a few azlactones. Abbott Laboratories.

PB L 79649. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Mar 14, 1944. (Abbott Rept A 4). Mar 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Ethoxymethylene hippuric azlactone (5(4)-oxazolone, 4-ethoxymethylene-2-phenyl-) was synthesized. The model compound, dl-methyl 5,5-dimethyl-2-phenylthiazolidine-4-carboxylate was prepared. The synthesis of desthiopenillamine was undertaken, and studies were carried out on the isolation and degradation of penicillin G. A compound probably penicillin E was obtained. Abbott Laboratories.

PB L 79650. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Apr 15, 1944. (Abbott Rept A 5). Apr 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report covers work on derivatives of penicilloic acid G, degradation of sodium penicillin, stability tests of penicillin toward certain reagents, and preparation of certain penicillarine derivatives. Abbott Laboratories.

PB L 79651. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, May 15, 1944. (Abbott Rept A 6). May 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report discusses the reaction and mercury degradation of penicillin methyl ester, the synthesis of phenacetylaminoacetone, reaction of azlactones, and mercury degradation of dimethyl penicilloic acid G. Abbott Laboratories.

PB L 79652. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis study on penicillin. (Abbott Rept A 6a). Jul 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
The synthesis of 2-phenyl-5(4)-oxazolone. Abbott Laboratories.

PB L 79653. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis study on penicillamine. (Abbott Rept A 7). n. d. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
A study of the reaction of isopropylidenemalonic acid with benzyl mercaptan. Abbott Laboratories.

PB L 79654. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Jun 15, 1944. (Abbott Rept A 8). Jun 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
The following are considered: Penicillin methyl ester-(a) reaction with Grignard Reagents (b) mercury degradation, benzylamine reaction products with mercuric chloride degraded methyl penicillin, and preparation of methyl ester of penicilloic acid-G benzylamide. The synthesis of α-phenacetylaminoacetophenone and the reaction of azlactones with Grignard Reagents. Abbott Laboratories.

PB L 79655. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. A comparison of alcohol and benzyl amine inactivation products of penicillin G with synthetic penicillicates. (Abbott Rept A 9). Jun 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a joint report consisting of Abbott Laboratories Rept. A 9, Lilly Research Laboratories Rept. L 10, Park, Davis and Co. Rept. PD 13, and the Upjohn Co. Rept. U 9. The natural degradation products have been prepared by the Abbott Laboratories, the synthetic penicilloic G esters by Park, Davis and Co., the synthetic benzyl penicilloic G amides by the Upjohn Co., and the physical chemical comparisons made by the Lilly Research Laboratories. The degradative work and synthetic work have been previously reported by these groups. From the data now available, it seems safe to conclude that the methyl alcohol, ethyl alcohol, and benzyl amine inactivation products of penicillin G have the thiazolidine structure assigned to the synthetic products. Abbott Laboratories.

PB L 79656. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Jul 15, 1944. (Abbott Rept A 10). Jul 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A few of the details are given in the treatment of sodium penicillin and methyl penicillin with benzoyl chloride. Abbott Laboratories.

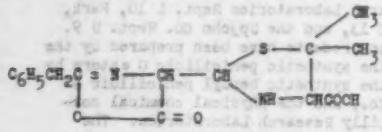
PB L 79657. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin

research. Progress report, Aug 15, 1944. Aug 1944. (Abbott Rept A 11). 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The reaction of sodium penicillin with glacial acetic acid, and the attempted benzolation of α-benzylamido-β-methyl penicilloate G are reported. Abbott Laboratories.

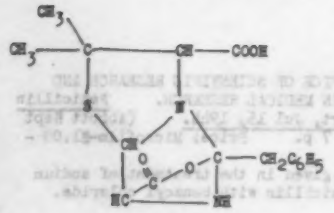
PB L 79658. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Sep 15, 1944. (Abbott Rept A 12). Sep 1944. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
The following work is reported: mercuric chloride degradation of sodium penicillin and of methyl penicillin; reaction of N-acetyl-dl-penicillamine with-(a) p-nitrobenzyl bromide, (b) α-naphthyl isocyanate, (c) phenyl isothiocyanate, and (d) 3,5-dinitrobenzoyl chloride; thioglycollic acid, mercury salt-(a) attempt to couple with p-nitrobenzyl bromide and (b) with 3,5-dinitrobenzoyl chloride, (c) reaction with iodine; and the stability of sodium penicillin in the presence of azlactones and thiazolidines. Abbott Laboratories. Rept A 12a attached is a correction sheet.

PB L 79659. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Oct 15, 1944. (Abbott Rept A 13). Oct 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report contains a note on the tricyclic formula for penicillin and the preparation of the following homopenicillamines-(a) N-chloroacetyl-dl-isoleucine, (b) 2-methyl-4-isobutylidene-5-oxazolone, (c) N-acetyl-β-mercapto-dl-isoleucine, (d) β-mercapto-dl-isoleucine hydrochloride, and (e) 2,2-dimethyl-4-carboxy-5-methyl-5-methylthiazolidine hydrochloride. Abbott Laboratories.

PB 79660. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The constitution of penicillin G. (Abbott Rept A 14). Nov 1944. 20 p. Price: Microfilm-$1.00 - Photostat-$2.00
Joint report by Abbott Laboratories (A-14), Lilly Research Laboratories (L-15), Park, Davis and Co. (PD-18), and Upjohn Co. (U-14) has the following introduction: degradation products, biological precursor studies, and physical chemical properties provide criteria by which the correctness of any proposed structure for penicillin G may be evaluated. Two structures merit a detailed discussion: (A) the azlactone-thiazolidine structure, discussed in previous joint Rept A-9, PB 79655, and (B) the tricyclic structure



(A)



(B)

The summarizing data presented appear to harmonize better with the tricyclic structure than with any other structure advanced to date. Abbott Laboratories.

PB L 79661. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Nov 15, 1944. (Abbott Rept A 15). Nov 1944. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
A discussion of the synthesis of N-methyl penicillamine. Abbott Laboratories.

PB L 79662. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Dec 15, 1944. (Abbott Rept A 16). Dec 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A study of those fractions of the crude penicillin which have been designated penicillins 4 and 5, the reaction and fractionation of methyl penicillin G, and synthetic work related to the preparation of N-methylpenicillamine. Abbott Laboratories.

PB L 79663. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Jan 15, 1945. (Abbott Rept A 17). Jan 1945. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
A study of acylating agent, oxalyl, and of Grignard reagent on methyl penicillin G, also the purification of penicillins K and L. Abbott Laboratories.

PB L 79664. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Feb 15, 1945. (Abbott Rept A 18). Feb 1945. 12 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report refers to the discussion of the amido linkage -CONH- in penicillin-G, Abbott Rept. A-17, PB 79663, then proceeds to discuss the phenylacetamido radical, $C_6H_5CH_2CONH$-, as a probable amide grouping in penicillin and the possible use of the evidence for the presence of the phenylacetamido radical in penicillin as represented by the β-lactam formula. Alternate explanations are given. Abbott Laboratories.

PB L 79665. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Mar 15, 1945. (Abbott Rept A 19). Mar 1945. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
In connection with the isolation of a compound analyzing for the 2,4-dinitrophenylhydrazone of N,N-dibenzoylaminoacetone, as reported previously, the synthesis of that compound, as well as N-benzoyl-N-phenacetylamino-acetone, was begun. Only dibenzamide was isolated from the reaction between sodium dibenzamide and chloracetone. Phenacetylaminoacetone ethylene ketal was prepared, but benzolation attempts were unsuccessful. Abbott Laboratories.

PB L 79666. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Apr 15, 1945. (Abbott Rept A 20). Apr 1945. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Report A-13; PB 79664, described several model compounds derived from oxalyl chloride and phenylacetamides. Their behavior with benzylamine has been examined in order to interpret similar reactions of the oxalyl chloride degradation products of methyl penicillin. Reports A-17; PB 79663, and A-18 described a crystalline substance formed from methyl penicillin G and oxalyl chloride in ether at 35°. The melting point (hot stage) was reported as 173° or 213°, depending upon the rate of heating. The former figure is too high. The capillary melting point in a pre-heated bath is about 170°. The oxalyl chloride product (m. p. 170°) reacts with benzylamine much more slowly than do the model substances. Several products are formed. One of these, readily isolated in pure form, melts at 222°-233°. Analyses do not fit for

mono- or di- addition products between benzylamine and the starting material. The other products are gummy and have not been characterized. Abbott Laboratories.

PB L 79667. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, May 15, 1945. (Abbott Rept A 21). May 1945. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report is concerned with the synthesis and comparison of melting points, individually and in mixture combinations, of the 2,4-dinitrophenylhydrazones of: (a) caprylylaminoacetaldehyde, (b) γ-ethylcaproylaminoacetaldehyde, (c) n-heptanoylaminoacetaldehyde, and (d) penicillin-K. Abbott Laboratories.

PB L 79668. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Jun 15, 1945. (Abbott Rept A 22). Jun 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The first group of eight compounds has been tested as precursors of penicillin. In addition dl-caprylylvaline has been prepared but not tested. The accompanying table gives the average of assay results. Abbott Laboratories.

PB L 79669. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Jul 15, 1945. (Abbott Rept A 23). Jul 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Experimental results demonstrate the presence of a caprylic acid residue in penicillin K. a crystalline preparation of penicillin L has been prepared, and the preparation of benzylmercaptoacetic acid, benzylmercaptoacetamide, and benzylmercaptoacetylvaline has been carried out. Abbott Laboratories.

PB L 79670. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Aug 15, 1945. (Abbott Rept A 24). Aug 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The benzylamine salt of α-methyl penicilloate-K was prepared in crystalline form. Reasons are given for believing that penicillin-L was isolated. Twenty compounds were tested as precursors of penicillin. Abbott Laboratories.

PB L 79671. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Sep 15, 1945. (Abbott Rept A 25). Sep 1945. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Previously designated penicillin-L fractions, because they passed through a p^H 6.6 silica gel-buffer column, have yielded crystalline sodium salts which are probably penicillin-K. A carefully purified preparation gave the following analytical results:
Found: ——————————————C, 53.00; H, 6.72
Calcd. for $C_{16}H_{25}O_2SN_2$ (penicillin K): C, 52.72; H, 6.92
Twenty-seven compounds were tested for effectiveness as precursors results are given in attached tables. Abbott Laboratories.

PB L 79672. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin research. Progress report, Oct 31, 1945. (Abbott Rept A 26 (Final)). Oct 1945. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This final report deals with the crystallization, analyses, physical and chemical properties, and antibiotic activity of penicillin-K and for penicilloates of penicillin-K. Eighteen additional compounds are listed and tables given in the biosynthesis of penicillins. Abbott Laboratories.

PB L 79679. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis of monomethyl dl penillate-II or a stereoisomeride thereof. By A. H. Cook and others. (British Rept Br 85; Committee on Penicillin Synthesis Rept 199). Jul 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report discusses the results of several experiments leading to the synthesis of penillic acid. In one experiment, interaction of dithiophenylacetic acid and β,β-diethoxyalanine gave the N-thiophenylacetyl derivative which when methylated with diazomethane gave an oily methyl ester. Condensation of the methyl ester with dl-penicillamine gave the crystalline ester or an isomeride. A table and graph compare the absorption spectra of the synthetic methyl ester with d penillic acid. Imperial College of Science and Technology.

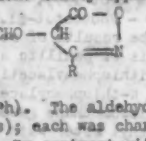
PB L 79780. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Glaxo Laboratories Ltd. Research programs. By B. A. Howe and F. A. Robinson. (British Rept Br 86; Committee on Penicillin Synthesis Rept 200). Jul 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
A brief summary is given of the results obtained during the six months covered by the previous program as well as a statement of the future investigations following certain revised ideas concerning the structure of penicillin. The report includes work on the preparation of penicillamine and penillic acid.

PB L 79781. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The preparation of some thiazolidines. (British Rept Br 87; Committee on Penicillin Synthesis Rept 201). Jul 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A number of thiazolidines have been prepared for the purpose of studying some of their properties, namely, stability in aqueous solution, reactions with metal ions, electrometric titration and behavior in the polarograph. A report on the polarograph results will be made later. The results of the other studies are given in tables and titration curves. Glaxo Laboratories Ltd.

PB L 79782. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The British Drug Houses Ltd. Interim Report. (British Rept Br 88; Committee on Penicillin Synthesis Rept 202). Jul 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
One of the projects (C.P.S. 64, (2), d, e, f) involved the preparation of an ammonium salt, formation of the carbinolbase, and finally conversion into the lactone. In connection with this project, this laboratory has investigated salts of the benziminazole, iminazole, and iminazoline series. The report also deals briefly with the tricyclic structure of penicillin, a proposed synthesis of lactones from azlactones, and the formation of thiolactones. A fuller report on this work is given in C.P.S. 112, PB 79812.

PB L 79783. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The polarographic behavior of penicillamine and derivatives thereof, including penicillin. By A. H. Cook and others. (British Rept Br 89; Committee on Penicillin Synthesis Rept 203). Jul 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Representative curves are presented showing the characteristics of penicillamine, thiazolidine, and penicillin. A comparison is made of thiazolidine and penicillamine. Imperial College of Science and Technology.

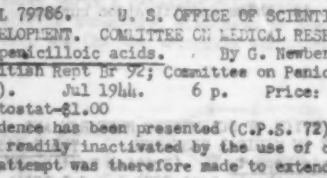
PB L 79784. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Thiazolidines of the isoxazolone series. By A. H. Cook and others. (British Rept Br 90; OSRD Committee on Penicillin Synthesis Rept 204). Aug 1944. 3 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Experiments were carried out with 3-R-4-anilinomethylene-5-isoxazolone (R=Me, Ph, n-C_5H_{11}, CH_2Ph) in order to remove the aniline from the anils and so work with the free formyl compounds. Fission was brought about in the presence of warm dilute acid or more usefully in very dilute sodium carbonate. The isoxazolone moiety appeared in each case as the 4-formyl compound



(R=Me, Ph, n-C_5H_{11}, CH_2Ph). The aldehydes were acidic (like other isoxazolones); each was characterised as its dinitrophenylhydrazone. By contrast with hydroxymethylene compounds of the oxazolone series, the present aldehydes condensed very readily with dl-penicillamine to obtain the appropriate thiazolidine ring. These experiments were carried out in the event the bicyclic structure for penicillin should prove correct. Imperial College of Science and Technology.

PB L 79785. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The effect of acetic anhydride on the activity of penicillin and of alkali-inactivated penicillin. By J. Harrison and G. Newbery. (British Rept Br 91; Committee on Penicillin Synthesis Rept 205). Jul 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
In connection with attempts made to form oxazolones of possible bactericidal activity by the ring closure of acids of the penicilloic acid type (C.P.S. 206) it seemed desirable to study the action on penicillin of the cyclising agent it was intended to use, and also to see if it were possible to reverse the inactivating effect of alkali. Preliminary experiments are here recorded in which crude penicillin was used. Cold acetic anhydride was the reagent investigated and conditions were similar to those used in the synthetic work. The results seem to indicate that penicillin is stable to the action of cold acetic anhydride only for a limited period of time and there was no evidence that restoration of the bacteriological action of penicillin could be effected by the use of this reagent. May & Baker Ltd.

PB L 79786. U. S. OFFICE OF SCIENTIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Ring closure of penicilloic acids. By G. Newbery and R. Raphael. (British Rept Br 92; Committee on Penicillin Synthesis Rept 206). Jul 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
Evidence has been presented (C.P.S. 72) that penicillin was not readily inactivated by the use of cold acetic anhydride. An attempt was therefore made to extend the use of cold acetic anhydride as a ring closing agent to three products of the penicilloic acid type namely:



where R = C_6H_9
R = C_6H_5
R = $CH_2 . C_6H_5$

The present report refers to attempts made to ring close a product of this kind where R=C_6H_5, i.e. a racemic nor-penicilloic G acid. May & Baker Ltd.

PB L 79787. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. 2-δ-Phenylbutadienyl-4-hydroxymethyleneoxazolone and its condensation with penicillamine. By F. E. King and others. (British Rept Br 93; Committee on Penicillin Synthesis Rept 222). Aug 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
Cinnamylideneacetyl glycine, (Ph. CH: CH.CH: CH.CO.NH. CH_2 COOH, readily condenses with ethyl orthoformate in acetic anhydride yielding 2-δ-phenylbutadienyl-4-hydroxymethylene oxazolone. The anilinomethylene compound was not readily isolable but the oxazolone has given a sparingly soluble p-sulfonamido-phenylamino derivative. Hydrolysis of the ethoxymethyleneoxazolone with aqueous alkali affords the corresponding hydroxymethylene compound via the bright yellow sodium enolate. The oxazolone compound was brought into reaction with penicillamine, but the products were devoid of biological acitivity. The alternative process, i.e., condensation of the unsaturated hydroxymethyleneoxazolone with penicillamine followed by hydrogenation using a sulfur-resisting palladium-polywinyl alcohol catalyst likewise failed to give an active product. Oxford University.

PB L 79793. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The reactions of 2:4-substututed-5-oxazolones in relation to the thiazolidine-oxazolone structure for penicillin. By H. J. Barber and others. (British Rept Br 99; Committee on Penicillin Synthesis Rept 234). Aug 1944. 17 p.
Price: Microfilm-$1.00 - Photostat-$2.00
Part 1 of the report is an attempt to summarize and assess the work of this laboratory, and includes comments on such of the American work in this field as is relevant. The second part describes in some detail recent work on oxazolones under the following headings: (1) Attempted formylations of oxazolones; (2) action of hydrogen sulfide on oxazolones; (3) action of benzylamine on oxazolones; (4) alcoholysis of 2-phenyl-4-ethoxymethylene oxazolone; and (5) miscellaneous. May & Baker Ltd.

PB L 79788. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Reaction of thiazolidine derivatives with sodium azide. By J. Elks and others. (British Rept Br 94; Committee on Penicillin Synthesis Rept 223). Aug 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
Tests have been carried out to determine whether penicillamine when condensed with certain oxazolone derivatives results in a compound containing a free sulfhydryl group, or an intact thiazolidine ring. Sodium penicillin G, penillic acid and a number of penicillamine derivatives were therefore tested with the azide reagent in order to determine the structure. The results of those tests as well as those obtained with ferric chloride and sodium nitroprusside are recorded in Table 1. It was seen that the positive azide-iodine reaction was not necessarily indicative of a free sulfhydryl group. The structure of penicillin could not be determined from these tests. Glaxo Laboratories Ltd.

PB L 79789. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillamine. By B. A. Hems and others. (British Rept Br 95; Committee on Penicillin Synthesis Rept 224). Aug 1944. 5 p.
Price: Microfilm-$1.00 - Photostat-$1.00
The report outlines several procedures for the synthesis of penicillamine starting with α-ketoisovaleric acid which had been obtained from 2-phenyl-4-isopropylidene oxazolone. Glaxo Laboratories Ltd.

PB L 79790. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Polarography of penicillin and related compounds. By B. A. Hems and others. (British Rept Br 96; Committee on Penicillin Synthesis Rept 225). Aug 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Many degradation products of penicillin contain free sulfhydryl groups which yield catalytic steps when examined in an ammoniacal buffer solution containing divalent cobalt. It was believed that this step might be used for the estimation of penicillin and its derivatives. In addition to penicillins F and G, the report deals with several penicillamine and thiazolidine derivatives. A table also gives the results of the inactivation of penicillin solution with penicillinase. Glaxo Laboratories Ltd.

PB L 79791. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Biosynthesis of the penicillins. Parts I and II. By E. Lester Smith and others. (British Rept Br 97; Committee on Penicillin Synthesis Rept 226). n. d. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a preliminary report on the role of the nutrients in the biosynthesis of penicillin by Penicillium notatum. There was some speculation as to whether to use an improved corn steep liquor, a protein-supplemented synthetic medium, or a purely synthetic medium. Glaxo Laboratories Ltd.

PB L 79792. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin: Interim report on structural studies in progress. By C. T. Calam and others. (British Rept Br 98; Committee on Penicillin Synthesis Rept 227). Aug 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Experiments dealing with the following topics are described: (1) Behavior of penicillin with phenyl isocyanate; (2) inactivation of free penicillin G with methanol; (3) preliminary examination of a fraction containing penicillin-IV from P 1 strain material; and (4) state of hydration of crystalline sodium penicillin F. Imperial Chemicals Industries Ltd.

PB L 79794. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Removal of the carbobenzoxy group from a 2-carbo-benzoxyaminomethylthiazolidine. By E. P. Abraham and others. (British Rept Br 100; Committee on Penicillin Synthesis Rept 235). Aug 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Several reactions involving thiazolidine derivatives are described. Included is a description of the preparation of 2-amino-methyl, 5,5-dimethyl-thiazolidine-4-carboxylic acid (1) from 2-carbobenzoxyaminomethyl-thiazolidine-4-carboxylic acid (2) as well as the preparation of (1) from (2) by removal of the carbobenzoxy group. Oxford University.

PB L 79795. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Experiments leading to the synthesis of penicillamine: A synthesis of valine. By R. J. S. Beer and others. (British Rept Br 101; Committee on Penicillin Synthesis Rept 244). Sep 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The initial condensation of acetone with acetylthiohydantoin, gave 89% of 5-isopropylidene-2-thiohydantoin, and this reacted with chloroacetic acid to give an 83% yield of 5-isopropylidenehydantoin. Hydrogenation in presence of Raney nickel to 5-isopropylhydantoin was quantitative. dl-Valine was obtained from the hydantoin in a minimum yield of 55% by prolonged hydrolysis with baryta; when the period of hydrolysis was reduced, dl-isopropylhydantoic acid was also isolated from the product. Bromophenyl acetyl chloride afforded bromophenylacetylvaline which was used for oxazolone cyclization experiments. Oxford University.

PB L 79796. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The dissociation constants and structures of penicillin and related compounds. By A. Neuberger. (British Rept Br 102; Committee on Penicillin Synthesis Rept 266). Sep 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
In all discussions on the structure of the penicillins, the ionization constants of these compounds have played a major part and the pK values found have created considerable doubt as to the correctness of the thiazolidine-oxazolone structure. Some aspects of this problem have been discussed in an earlier report (C.P.S. 54). In this report pK values of penicillin F and G, under different conditions, of thiazolidines, penilloates, and penicilloates are given and their relationship with their structure is discussed. National Institute for Medical Research, London. C.P.S. 327 is included in this report, consisting of a minor correction to the present report.

PB L 79797. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Some experiments in the thiazoline series. By N. Bentley and others. (British Rept Br 103; Committee on Penicillin Synthesis Rept 267). Sept 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A number of experiments are described in which it was hoped to obtain thiazolines for thiazolidine-oxazolone formulation. Imperial College.

PB L 79798. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. dl-Norpenicilloic acid. By R. J. S. Beer and others. (British Rept Br 104; Committee on Penicillin Synthesis Rept 268). Sep 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
Benzoyl-β,β-diethoxy alanine ethyl ester has been obtained in 67% yield by the action of sodium ethoxide on the 4-ethoxymethylenephenyl oxazolone. Hydrolysis of the ester with cold aqueous alkali under mild conditions gave benzoyl-β,β-diethoxyalanine. Benzoyldiethoxyalanine ester gave a crystalline hydrazide, and this cyclized in hot acid to 4-benzamido-pyrazol-5-one. There was no indication of oxazolone ring closure on treatment with acetic anhydride. The condensation of benzoyldiethoxyalanine with penicillamine hydrochloride afforded the sparingly soluble hydrochloride of 2-benzamidomethyl-5,5-dimethylthiazolidine-4 carboxylic acid (dl-norpenilloic acid), simultaneous decarboxylation occurring in the manner now known to be characteristic of the free amino-acids of this series. Using diethoxyalanine ethyl ester, the reaction gave the difficultly purifiable thiazolidine ester hydrochloride which was hydrolyzed by aqueous or alcoholic alkali to dl-norpenicilloic acid G. Oxford University.

PB L 79799. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Status of the constitutional problem. (British Rept Br 105; Committee on Penicillin Synthesis Rept 269). Sep 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report discusses the structure of the penicillin molecule. The investigators find no evidence whatever which is inconsistent with the thiazolidine-oxazolone formula.

PB L 79800. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Some miscellaneous compounds arising out of C.P.S.5. By A. H. Cook and others. (British Rept Br 106; Committee on Penicillin Synthesis Rept 270). Sep 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report gives the experimental details of reactions mentioned in C.P.S. 5 and includes other relevant compounds not hitherto specifically mentioned. The present report deals with the following: (1) Preparations relating to penicillamine synthesis obtained from β,β-dimethylacrylic acid derivatives and from 2-phenyl-4-isopropylidene-5-oxazolone; (2) miscellaneous penicillamine reactions; and (3) miscellaneous aminoaldehyde derivatives and thiazolidines therefrom. Imperial College.

PB L 79801. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Structure of penicillin. By E. P. Abraham and others. (British Rept Br 107; Committee on Penicillin Synthesis Rept 271). Sep 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report briefly discusses several formulas for penicillin based upon degradation studies which show that (1) penicillin in penicillamine + penaldic acid-$2H_2O$, (2) the α-carboxyl (penicillamine) is free, (3) the β-carboxyl is bound in a readily hydrolysable grouping, and (4) the thiol and the aldehyde functional group are not free. Oxford University.

PB L 79802. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Structure of penicillin. By E. P. Abraham and others. (British Rept Br 108; Committee on Penicillin Synthesis Rept 271, Add.). Oct 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report continues the discussion of the penicillin structure based upon theoretical considerations. Oxford University.

PB L 79803. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. 4-Methyl and 4-diethoxymethyl-2-benzylidenepseudoxazolones. By F. E. King and others. (British Rept Br 109; Committee on Penicillin Synthesis Rept 272). Sep 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
A description is given of the preparation of 4-methyl-2-benzylidenepseudoxazolone. Some details are given of attempts to oxidize the compound to the 4-aldehydepseudoxazolone required for condensation with penicillamine. The synthesis of the acetal,4-diethoxymethyl-2-benzylidenepseudoxazolone, has been achieved from 2-d-bromophenacetamide-3,3-diethoxypropionic acid. The action of an acid solution of 2,4-dinitrophenylhydrazine on this latter substance gave the dinitrophenylhydrazone of α-bromophenacetylamino-acetaldehyde. Ultra-violet absorption spectra curves are included. Oxford University.

PB L 79804. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis of d- and l-dihydropenillamine-I. By A. H. Cook and others. (British Rept Br 110; Committee on Penicillin Synthesis Rept 273). Sep 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Isopropylidene penicillamine yielded d and l-penicillamine by means of brucine salts. l-Penicillamine hydrochloride was condensed with n-caproylaminoacetal to give the l-thiazolidine hydrochloride. Similarly d-penicillamine hydrochloride was condensed with n-caproylaminoacetal to give the d-thiazolidine hydrochloride. The optically pure thiazolidine hydrochlorides were then converted to crude decarboxypenillic acids, followed by ring opening with mercuric chloride. d-(-)-Dihydropenillamine I hydrochloride and l-(+)-dihydropenillamine I hydrochloride were both obtained in crystalline form which were than recrystallized from a mixture of acetone and ether. Rotary values of penicillamine are discussed briefly. The report also gives some information on the preparation of d and l-penicillamine and isopropylidene penicillamines. Experiments describe the preparation and use of methyl-dithio-n-caproate and of the free acid. Imperial College.

PB L 79805. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin: Interim report on synthetic studies in progress. By H. C. Carrington and others. (British Rept Br 111; Committee on Penicillin Synthesis Rept 274) Sep 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Preliminary work has been undertaken to prepare 5-alkoxyazoles as intermediates for the synthesis of the Robinson oxazolone-thiazolidine structure for penicillin. This report describes the results of this work and outlines the course of the investigations. Part A of the report deals with the following: (1) Preparation of 5-ethoxy-2-phenyloxazole; (2) preparation of 2-phenyl-5-benzyloxyoxazole and its hydrogenation; (3) preparation of formyl benzyl hippurate by formylation of benzyl hippurate and from 2-phenyl-4-hydroxymethylene-5-oxazolone. Part B of the report describes the preparation of methyl-2-phenyl-5,5-dimethylthiazoline-4-carboxylate by the action of phosphorus pentasulfide on methyl α-benzoylamino-β,β-dimethylacrylate. A description is given of the hydrolysis of the ester in acid and alkali and the action of mercuric chloride on the free acid. Imperial Chemical Industries Ltd.

PB L 79806. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Isolation of β-phenylethylamine and β-p-hydroxyphenylethylamine from corn steep liquor. By T. H. Mead and others. (British Rept Br 112; Committee on Penicillin Synthesis Rept 275). Sep 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
This preliminary report is a brief statement of the isolation of these compounds from the media. A full account of this work will be given in another report. The British Drug Houses.

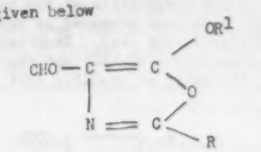
PB L 79807. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Polarography of penicillin and related compounds. By B. A. Iles and others. (British Rept Br 113; Committee on Penicillin Synthesis Rept 290). Sep 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
The report discusses the results of polarographic studies which have been made on penicillin, penicillamine, cysteine, and several thiazolidines. Calibration curves for penicillamine and penicillin are shown; results obtained with several routine clinical samples of penicillin have been plotted on the same curve. Other curves show that if penicillinase-inactivated penicillin solution has been allowed to stand in the polarographic cell for thirty minutes, steps develop in the same way as with alkali-inactivated penicillin. A description is given of this Laboratory's method for assaying routine clinical samples of penicillin which has an accuracy of ± 10% and is more rapid than the biological method. Glaxo Laboratories Ltd.

PB L 79808. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Penicillin produced in presence of phenylacetic derivatives. By J. R. Catch and others. (British Rept Br 114; Committee on Penicillin Synthesis Rept 291. Oct 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
A study was made of penicillin fractions produced by a P. notatum strain which normally does not produce penicillin II. In this instance, phenylacetic derivatives had been added to the media. The fractions had been separated on a silica-phosphate buffer column. The study demonstrated the production of penicillin II by the strain which under the cultural conditions hitherto employed had given no indication of producing any highly active principle other than penicillin I. Imperial College.

PB L 79809. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Biosynthesis of the penicillins, Part III. By E. L. Smith and others. (British Rept Br 115; Committee on Penicillin Synthesis Rept 298). Oct 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes a continuation of the work recorded in C.P.S. 226 (PB 79791). In the main, the new results confirm and extend the earlier ones. Somes substances are effective in promoting penicillin production at concentrations much lower than those previously reported. The Glaxo strain has been generally used, instead of the American 1249 strain used previously. The following topics are dealt with: (1) Relative efficiency of "penicillin factors"; (2) attempted biosynthesis of other penicillins; (3) nature of the protein used; cystine and trace metals; (4) sulfur metabolism; and (5) other possible participants in biosynthesis. Several tables are included. Glaxo Laboratories Ltd.

PB L 79810. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Boots Pure Drug Co. Ltd., Interim report. By C. I. Broderick and others. (British Rept Br 116; Committee on Penicillin Synthesis Rept 305). Oct 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
Efforts have been directed towards the synthesis of aldehyde

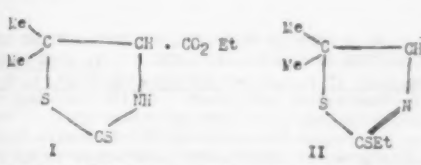
of the type given below



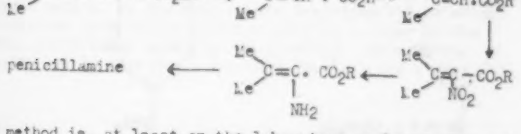
in which ultimately, R will be one of the penicillin side-chains and R^1 will be a radical capable of ready removal subsequent to condensation of the aldehyde with penicillamine. A description is given of various pententially useful intermediates for the synthesis of the oxazoles of the type given above. A record is also made of the failure of several routes which have already been tried. In this exploratory stage the most readily available starting materials have been used in which, in general, R = Ph or n-C_6H_{11} and R' = Et or Me. The oxazoles are to be used for the preparation of thiazolidine-oxazolone formulations.

PB L 79811. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. A new synthesis of penicillamine. By A. H. Cook and others. (British Rept Br 117; Committee on Penicillin Synthesis Rept 311). Oct 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

An investigation has been made of several methods of preparing penicillamine. Some of these methods involved the preparation of thiazoline and thiazolidine derivatives such as are given below



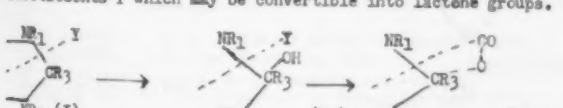
with opening of the ring. Other methods involved the direct synthesis of penicillamine from β,β-dimethyl-acrylic acid. A novel route to penicillamine is provided by the following series of reactions.



This method is, at least on the laboratory scale, simpler and less time-consuming than via hippuric acid and S-benzylpenicillamine. Imperial College.

PB L 79812. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The British Drug Houses Ltd. Interim report. By J. L. Bailey and others. (British Rept Br 118; Committee on Penicillin Synthesis Rept 312). Oct 1944. 16 p. Price: Microfilm-$1.00 - Photostat-$2.00

The present report describes experiments in the benziminazole, iminazole and iminazoline series on the possibility of forming carbinol bases (II) from quaternary salts (I) containing substituents Y which may be convertible into lactone groups.



It has been found that the carbinol-base formation occurred most easily in the benziminazole series. When $R_2 = R_2 = R_3 = CH_3$ only a benziminazole member gave a carbinol-base on treatment with aqueous potassium hydroxide. When one of the group R_1, R_2, or R_3, carried a carboalkoxyl substituent the product obtained by treating the quaternary salt with silver hydroxide was a betaine. When each of the substituents R_1 and R_2 carried a carboalkoxyl group, the product was a betaine carboxylic acid. None of the simple carboalkoxyl-substituted salts examined yielded a carbinol base on treatment with sodium and potassium carbonate. In the benziminazole series and employing an alkali carbonate a single cyano-substituent introduced into one of the groups R_1 R_2 did not enable carbinol-base formation to occur. A carbinol base was readily obtained, however, when each of the R_1 and R_2 groups carried a cyano-substituent.

PB L 79813. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis of d- and l-penillamine-II. By A. H. Cook and others. (British Rept Br 119; Committee on Penicillin Synthesis Rept 313). Oct 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

At the commencement of this work the shorter penillamine synthesis (C.P.S. 77) via phenylthioacetylaminoacetal was attempted with d-and l-penicillamine, but with rather indifferent success. This brief account represents the summation of many experiments in this direction. Imperial College.

PB L 79814. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Syntheses in the penicillin-III series. I. Penillo-III aldehyde. By A. H. Cook and others. (British Rept Br 120; Committee on Penicillin Synthesis Rept 314). Oct 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report records the synthesis of penilloaldehyde-III as its dinitrophenylhydrazone. The compound was prepared from the reaction of p-acetoxyphenylacetyl chloride (from p-phenylacetic acid and acetic anhydride + substitution of the hydroxyl group) with aminoacetal in sodium bicarbonate solution to give the highly crystalline p-acetoxyphenylacetylamino diethyl acetal, characterised as its dinitrophenylhydrazone. The acetoxy-acetal was treated with caustic alkali to give crude p-hydroxyphenylacetylamino diethyl acetal, the final purification of which has not yet been effected. Imperial College.

PB L 79815. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The racemization of the optically active forms of penicillamine. By F. C. Copp and others. (British Rept Br 121; Committee on Penicillin Synthesis Rept 319). Nov 1944. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

A brief description is given of a simple method for the conversion of l-N-formylisopropylidenepenicillamine into the required d-form by warming with acetic anhydride. The Wellcome Chemical Research Laboratories.

PB L 79816. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The reduction of 4-methyl-2-benzylidenepseudoxazolone. By F. E. King and others. (British Rept Br 122; Committee on Penicillin Synthesis Rept 325). Nov 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

Model reductions of 4-methyl-2-benzylidene-pseudoxazolone have been carried out. By hydrogenation with a nickel catalyst in ethyl acetate, 4-methyl-2-benzyloxazolone was obtained. Hydrogenation of the same pseudoxazolone with a palladium catalyst in methanol gave methyl- α-phenacetamidopropionate. The pseudoxazolone which has been prepared by the action of acetic anhydride on N-phenacetylalanine, reacted readily with aniline to give N-phenacetylalaniline anilide, and with ammonia to give N-phenacetylalanine amide. Oxford University.

PB L 79817. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Comments on some recent reports. By R. Robinson. (British Rept

Br 123; Committee on Penicillin Synthesis Rept 329). Nov 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

The writer discusses the theoretical considerations in defense of the thiazolidine-oxazolone structure. Oxford University.

PB L 79818. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Thiophenylacetylpenicillamine. Interim report. By A. H. Cook and others. (British Rept Br 124; Committee on Penicillin Synthesis Rept 328). Nov 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

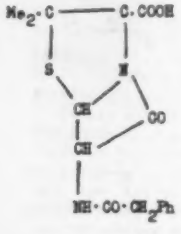
The report discusses the preparation of a desired thioacyl penicillamine which was required for the preparation of penillamine-II or penillic-II acid derivatives. Thiophenylacetylpenicillamine was prepared in good yield from the reaction of isopropylidene penicillamine and methyl dithiophenylacetate. Benzylidene penicillamine hydrochloride and methyl dithiophenylacetate however failed to react. Efforts to condense thiophenylacetyl penicillamine with amino acetal were unsuccessful. Imperial College.

PB L 79819. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Antibacterial action of penicillamine esters. By F. C. Copp and others. (British Rept Br 125; Committee on Penicillin Synthesis Rept 341). Nov 1944. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00

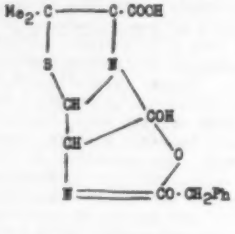
The report deals mainly with the condensation of penicillamine with substituted oxazolones. These include the condensation of d, l, and dl penicillamine with 2-phenyl-4-ethoxymethylene-5-oxazolone. Penicillamine was also condensed with a number of other 2,4-disubstituted-5-oxazolones including the following: (1) 2-Phenyl-4-methyl-4-diethoxymethylene; (2) 2-p-nitrophenyl-4-ethoxymethylene; (3) 2-p-nitrostyryl-4-ethoxymethylene; (4) 2-p-nitrophenyl-4-hydroxy-methylene; (5) 2-phenyl-4-ethylthiomethylene; and (6) 2-phenyl-4-benzylthiomethylene. The report also contains a table listing the esters of dl-penicillamine, isopropylidene-dl-penicillamine, and phenaceturic acid which had been prepared, together with their boiling or melting points. The antibacterial action of the penicillamine esters is still under investigation and is only briefly mentioned. The Wellcome Chemical Research Laboratories.

PB L 79820. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Report from the Wellcome Chemical Research Laboratories. By F. C. Copp and others. (British Rept Br 126; Committee on Penicillin Synthesis Rept 340) Nov 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

The report describes attempts to convert N-acyl penicillamines into the two thiazolidine structures given below.



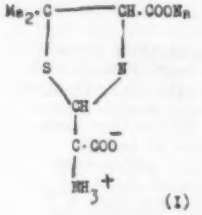
(I)



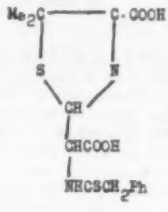
(II)

PB L 79821. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Synthesis of Intermediates. By E. P. Abraham and others. (British Rept Br 127; Committee on Penicillin Synthesis Rept 342) Dec 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

A description is given of the preparation of the two thiazolidines given below which have been prepared as crystalline sodium salts. dl-Penicillamine was used. Experiments are in progress on the azlactonization of (II) and the ring closure of its ester to the ester of penillic acid. Oxford University.



(I)



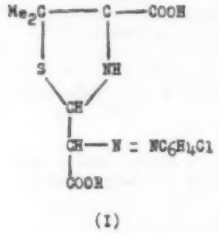
(II)

PB L 79822. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Interim report on synthetic studies in progress. (British Rept Br 128; Committee on Penicillin Synthesis Rept 346). Dec 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00

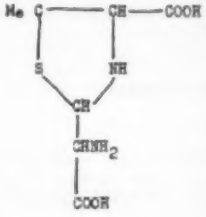
This report describes further progress in the preparation of intermediates for the work outlined in C.P.S. 274. Other intermediates of related types have been described by the Boots workers in C.P.S. 305. Several norpenicilloic II acid derivatives have been prepared as well as a number of 4-substituted-2-phenyl-5-oxazoles. Experiments have also been carried out on the preparation and ring closure of acylamino-cyanoacetic esters. Imperial Chemical Industries Ltd.

PB L 79823. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Interim report from the University of Manchester submitted by Prof. A. R. Todd. By J. Wardleworth and others. (British Rept Br 129; Committee on Penicillin Synthesis Rept 351) Dec 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

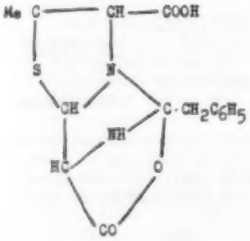
A description is given of experiments in attempts to synthesize penicillin-II for which structure III or IV seemed probable. These structures might theoretically be accessible from the amino acid (II) the product of reduction and hydrolysis of compound I. The synthetic routes initially envisaged are shown below.



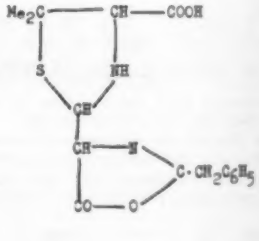
(I)



(II)



(III)



(IV)

An alternative route to (IV) via penillic acid also involved (II) as an intermediate. The present report deals with some attempts to effect the step (I)-(II) and with some model experiments on oxazolone formation connected with these attempts and with the proposed penicillin synthesis. They did not lead to the desired results but are now recorded for information.

PB L 79826. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The crystal structure of sodium, potassium and rubidium penicillin II. By D. Crowfoot and B. W. Rogers-Low. (British Rept Br 131; Committee on Penicillin Synthesis Rept 359). Dec 1944. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00.

An account is given of the progress made thus far on the detailed x-ray analysis of the above salts. The analysis is not as yet complete. Measurements have been obtained of the intensities of a complete series of x-ray reflections from sodium penicillin II and of a nearly complete series from potassium and rubidium penicillin II. Approximate projections of the electron density along three crystallographic axes (Fig. 1a, b, and c) have been derived from the latter and these have been compared with a variety of proposed chemical formulae of which the thiazolidine-oxazolone, and tricyclic, require most consideration. Diagrams of the probable structure of the penicillins are included, together with a table. Oxford University.

PB L 79825. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Some problems of identification in the penillic acid series. By D. M. Crowfoot and B. W. Rogers-Low. (British Rept Br 132; Committee on Penicillin Synthesis Rept 360). Dec 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

The crystallography of several samples of penillic acids is discussed briefly. Oxford University.

PB L 79827. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Crystal structure of sodium penicillin II. By C. W. Bunn and A. Turner-Jones. (British Rept Br 133; Committee on Penicillin Synthesis Rept 362). Jan 1945. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

This work was done at the Research Department of the I.C.I. Alkali Division at the request of Dr. Crowfoot (Department of Chemical Crystallography, University Museum, Oxford) that postulated structures of penicillin salts be tested by the very rapid optical diffraction ("fly's eye") method. Tests of possible structures for the rubidium and potassium salts, suggested by Dr. Crowfoot on the basis of results of the direct Fourier series method were made by the optical method, to see whether the suggested set of atomic coordinates gave diffraction intensities similar to the x-ray intensitites given by the crystals. An electron density map is included. Imperial Chemical Industries Ltd.

PB L 79828. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The synthesis of penicillins. By F. C. Copp and others. (British Rept Br 134; Committee on Penicillin Synthesis Rept 361). Jan 1945. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

Part 1 of the report describes the preparation of intermediates for the synthesis of tricyclic penicillin; part 2 deals with a new synthesis of 2-benzyl-4-ethoxymethylene-5 oxazolone starting with N-phenyl-chloro-acetyl-o-ethyl serine; part 3 deals with the attempted synthesis of dehydropenicillin. The Wellcome Chemical Research Laboratories.

PB L 79829. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Biosynthesis of penicillins. By H. A. V. Arnstein and others. (British Rept Br 135; Committee on Penicillin kept 377). Jan 1945. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00

It had been previously reported in C.P.S. 291 that the addition of phenylacetamide to the culture medium resulted in production of penicillin II by the Glaxo strain which apparently did not otherwise produce this penicillin. In order to secure further evidence it was desirable to ascertain whether other strains of P. notatum could be made to vary the composition of the penicillin the produced. Part of the report therefore consists of a comparison of the penicillin grown by '1249' strain in surface culture on a purely synthetic medium with and without phenylacetamide. The results with phenylethylamine as well as phenylacetamide confirmed the presence of appreciable quantities of penicillin II. Some penicillin III was also obtained. Several graphs are included. Imperial College.

PB L 79830. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Ring closure of penicilloic acids. By G. Newbery and R. Raphael. (British Rept Br 136; Committee on Penicillin Synthesis Rept 378) Jan 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

In continuation of efforts described in C.P.S. 206 to effect cyclization of dl-norpenicilloic II acid, an attempt has been made to ring close β-ethyl dl-norpenicilloic-II acid in the hope that the esterification of the β-carboxy group might lead to some stabilization of the α-carboxyl group. Ethyl norpenaldate diethyl acetal reacted smoothly with dl-penicillamine ethyl ester, producing a 90% yield of the required diethyl norpenicilloate-II hydrochloride. Attempted cyclization of the freshly prepared acid with acetic anhydride led to an unidentifiable gum from which no solid material could be obtained even after treatment with benzylamine. Other experiments were carried out to prepare penicillin II starting with the condensation product of penicillamine and N-phenyl-chloro-acetyl-β,β-diethoxy alanine, methyl ester. Preliminary trials for the catalytic reduction of the compound by hydrogen were unsuccessful. A graph is included. May & Baker Ltd.

PB L 79831. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. The crystal structure of sodium and rubidium penicillin II. By D. Crowfoot and B. W. Rogers. (British Rept Br 137; Committee on Penicillin Synthesis Rept 379). Jan 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

This report discusses the structure of the penicillin molecule after review of the electron density data submitted by C. W. Bunn and A. Turner-Jones. The evidence favors the thiazolidine-oxazolone formula as against the tricyclic formula with a condensed rather than an extended molecular configuration. An electron density map is included. Oxford University.

PB L 79832. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Some comments on the structure of penicillin. By A. H. Cook and I. M. Heilbron. (British Rept Br 138; Committee on Penicillin Synthesis Rept 380). Jan 1945. 2 p. Price: Microfilm-$1.00 - Photostat- $1.00

The report presents several possible structures of penillic acid and of several penicillins of tricyclic and tricyclic structure which might be derived from them. Imperial College.

PB L 79833. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Interim report, Dec 30, 1944. By H. J. Barber and others. (British Rept Br 139; Committee on Penicillin Synthesis Rept 385). Dec 1944. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00

The report discusses the work at this laboratory under these headings: (1) models for the penillic acid change; (2) synthesis and reactions of thiazolines; (3) further reactions of oxazolones; and (4) miscellaneous observations. May and Baker Ltd.

PB L 79834. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Interim report (following C.P.S. 267) - By R. Bentley and others. (British Rept Br 140; Committee on Penicillin Synthesis

Rept 386). Jan 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes a number of potentially useful intermediates in the preparation of near derivatives of 4 - carboxyazlactones. It represents an extension of work described in C.P.S. 63 and 267 directed towards thiazoline-oxazolone structures. Included is a brief discussion of the polarography of penicillamine derivatives. Imperial College.

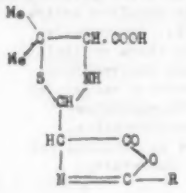
PB L 79835. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Crystalline and penicillin II. By E. Lester Smith and others. (British Rept Br 141; Committee on Penicillin Synthesis Rept 382). Jan 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
A description is given of the preparation of crystalline penicillin II triethylamine salt using a procedure described by Heyden Corporation. It is converted very easily to the sodium salt. A few physical constants are included. Glaxo Laboratories Ltd.

PB L 79836. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Polarography of penicillin and related compounds. By B. A. Hems and others. (British Rept Br 142; Committee on Penicillin Synthesis Rept 384). Jan 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
A number of thiazolidines have been examined by a special technique devised by this laboratory for measuring the rate of hydrolysis of these substances by mercury. The differences in the time required for development of the steps of various thiazolidines are significant and probably represent a measure of their relative stabilities. The results are summarized in Table 1, together with data recorded in an earlier experiment report, C.P.S. 201. The list includes dihydropenilloic acid I, dihydropenicilloic acid I, and a few simple derivatives of these acids. In Table 2, some data are reported for the hydrolysis of penicillin and some of its simple derivatives. Table 3 gives typical results using solutions of highly purified penicillin. Some typical polarograms are also included. Glaxo Laboratories Ltd.

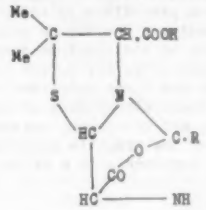
PB L 79837. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Further experiments in the thiazolidine and thiazoline series. By R. Bentley and others. (British Rept Br 143; Committee on Penicillin Synthesis Rept 387). Jan 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The preparation and reactions of a number of compounds of the above series are described. These include several thioacyl derivatives. Imperial College.

PB L 79838. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Further studies on the condensation of penicillamines. By F. C. Copp and others. (British Rept Br 144; Committee on Penicillin Synthesis Rept 388). Feb 1945. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Parts A, B, and C of the report deal with the condensation of 2-phenyl-4-ethoxymethylene-5-oxazolone with (1) penicillamine hydrochloride, (2) with acylpenicillamines, and (3) with β-hydroxynorvaline, respectively. Part D deals with the condensation of dl-penicillamine with the same oxazolone in liquid ammonia in the presence of sodium. Parts E and F describe the reaction between penicillamine and azides; and the reaction between S-Ethylcysteine and phenylchloroacetyl chloride, respectively. Part G lists a number of thiazolidine esters, together with their melting points, which have been prepared for biological testing. The Wellcome Chemical Research Laboratories.

PB L 79839. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Preliminary studies on imidazolidines. By J. Baddily and others. (British Rept 145; Committee on Penicillin Synthesis Rept 389). Feb 1945. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
The original purpose of the experiments was concerned with the eventual synthesis of two suggested penicillin structures (I) and (II). The proposed conversion of imidazolidines to thiazolidines was also investigated as well as the preparation of model compounds for the tricyclic structure of penicillin. Cambridge University.



(I)



(II)

PB L 79840. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Structure of penicillin. By D. Crowfoot and B. W. Rogers. (British Rept Br 146; Committee on Penicillin Synthesis Rept 390). Feb 1945. 4 p. Price: Microfilm-$1.00 Photostat-$1.00
A short account is given of the progress of x-ray analysis before confirmatory calculations are complete. The results thus far exclude the tricyclic configuration. Several structural diagrams are presented. A sketch of the Fourier projection of electron density is included together with a sketch showing atomic positions used for the calculation of the F values for rubidium penicillin listed in Table 1. Oxford University.

PB L 79824. U. S. OFFICE OF SCIENTIFIC RESEARCH AND DEVELOPMENT. COMMITTEE ON MEDICAL RESEARCH. Inactivation of penicillin. By A. Campbell and others. (British Rept Br 130; Committee on Penicillin Synthesis Rept 350). Dec 1944. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
In C.P. S. 205 some preliminary experiments are described in which the inactivation of crude penicillin G by acetic anhydride and by sodium hydroxide was studied. The present report deals with attempts to confirm these results on the crude product and also on pure sodium penicillin G. It also includes an account of some experimental work which has followed an observation that crude sodium penicillin is bacteriologically inactivated by ammonium chloride in concentrated solution. Several graphs are included. May and Baker Ltd.

Dyes

PB L 74573. I. G. FARBENINDUSTRIE A.G. Dyes produced at Uerdingen. (BIOS Microfilm Reel F.D. 2537/46; (B.O. 1548/46), Frames 1200-1238) Feb 1946. 38 f. Price: Microfilm-$1.25 - Enlargement print-$4.00
This FIAT microfilm reel contains descriptions of processes for dyes produced at the I. G. plant in Uerdingen. Individual items will be available as enlargement prints only, as listed below. When ordering, please include PB and frame numbers. The reel begins with a list of the 87 dyes and intermediates dealt with or mentioned in the descriptions of processes which follow. Frame and "Hollerith" numbers are given.

Frames	Title	Price
1200 PB L 74573	"Ceriss BB" and "Ledergelb 3 G." In German. These are byproducts of the Fuchsin process (next item).	$1.50

Dyes (contd)

1201-1204
PB L 74573
"Neufuchsin 90" powder. In German. The production of this substance, from o-toluidine, dimethyl-o-toluidine, nitro-toluene crude (74% o-, 24% p-, 2% m-nitrotoluene), is described. A flow sheet is added. 1.50

1205-1206
PB L 74573
"Malachitgrün." In German. Dimethylaniline and benzaldehyde are condensed with sulfuric acid and oxidized with lead peroxide. 1.50

1207-1208
PB L 74573
"Brillantgrün." In German. This is a similar process using diethylaniline. 1.50

1209
PB L 74573
"Benzalgrün 115." In German. This dye is produced by a modification of the process for "Malachitgrün," using zinc chloride. 1.50

1210-1214
PB L 74573
"Pararosanilin." In German. It is produced from aniline, p-toluidine, nitrobenzene, and p-nitrotoluene, in a process similar to that for "Neufuchsin." A flow sheet is added. 1.50

1215-1218
PB L 74573
"Kasara M" paints for suitcases. In German. Ingredients are given. The products were discontinued as unsatisfactory. 1.50

1219-1229
PB L 74573
Body colors based on nitrocellulose. In German. The apparatus is described, and general directions are given. The mixing formulas for a large number of products are given. They are classed as "Spaltfarben O", "Kasara B" conc., "Kasara GL" conc., and "Egalon M" and "-SD" dyes. 1.50

1230-1238
PB L 74573
"Bukanol" dyes. In German. "Bukanol" dyes are aqueous body colors for leather, and are based on casein. General directions are given. Mixing formulas for 24 "Bukanol" dyes are given. Special process descriptions are added where they differ from the general procedure. 1.50

PB L 70407. I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN GERMANY. Instructions for the preparation of dyes. (FIAT Microfilm Reel CC 131, Frames 7128-7504) 1922-1945. 376 f. Price: Microfilm-$4.75 - Enlargement Print-$38.50

This FIAT microfilm reel consists of items in the field of dye chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $4.75. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
7128-7130 7135-7136 7140 PB L 70407	Preparation of Zapon Fast Yellow CGG (dicyclohexylamine salt of orthanilic acid coupled with carboxypyrazolic acid 2. 1938. In German.	$1.50
7131-7134 7137-7139 PB L 70407	Zapon Fast Yellow 13185 and 20978 /Hoe. By Weigele and Tropp, 1938. In German.	1.50
7141-7146 7148 PB L 70407	Autazol Chromium Salt R K. By Tropp. 1942 and 1945. In German.	1.50
7147-7149 PB L 70407	Sensitivity to heat and percussion of Autazol Chromium Salt R and Rk. By Langbein, 1942. In German.	1.50
7150-7151 PB L 70407	Further treatment of some azo dyes on Wollstra with Autazol Chromium Salt R: directions of application. By Wiss, 1939. In German.	1.50
7152-7155 PB L 70407	Anthralan Yellow G, made from sulfanilic acid and (1,6'-chloro-2'-methyl-4'-sulfophenyl)-3-methyl-5-pyrazolone. By Tropp, 1935. In German.	1.50
7156-7157 PB L 70407	Light Fast Yellow E.G.G, made from sulfanilic acid and 1-(2'-chloro-5'-sulfophenyl) 3-methyl-5-pyrazolone. 1934. In German.	1.50
7158-7166 PB L 70407	Fast Supra Yellow GGT made from orthanilin acid and 1-(4'-sulfophenyl)-5-pyrazolone-3-carboxylic acid. By Tropp, 1934. In German.	1.50
7167-7169 PB L 70407	Fast Supra Yellow 2 G made from a mixture of equal parts of o-and p-phenylhydrazine-sulfonic acid with dihydroxy tartaric acid. By Kuchenbecker 1927. In German.	1.50
7170-7186 PB L 70407	Fast Supra Yellow 3 G, made by coupling orthanilic acid with carboxypyrazolic acid 2. By Tropp, 1935. In German.	1.50
7187 PB L 70407	1-(2'-sulfophenyl)-5-pyrazolone-3-carboxylic acid - carboxypyrazolic acid 2. 1925. In German.	1.50
7188-7190 PB L 70407	Fast Supra Yellow X, made by coupling diazotized (=2-naphthylamine-1-sulfonic acid) with-1-(2'-methyl-6'-chloro-4'-sulfophenyl)-3-methyl-5-pyrazolone. By Tropp, 1939. In German.	1.50
7191-7192 PB L 70407	Supramin Yellow S, made by coupling diazotized (=2-naphthylamine-1-sulfonic acid) with-1-(2'-chloro-5'-sulfophenyl)-3-methyl-5-pyrazolone. By Tropp, 1934. In German.	1.50
7193-7205 PB L 70407	Fast Supra Yellow X - Supramin Yellow S or 33410. The former product is obtained by coupling 2-naphthylamine-1-sulfonic acid with 1-(2'-chloro-5-sulfophenyl)-3-methyl-5-pyrazolone. By Fische. 1922. In German.	1.50
7206-7230 PB L 70407	Flavazin E 3 G L, obtained by coupling o-chloroaniline with (-1- (6'-chloro-2'-methyl-4'-sulfophenyl)-3-methyl-5-pyrazolone). By Tropp, 1934 and 1935. In German.	2.50
7231-7344 PB L 70407	Flavazin 4 G, obtained by hydrolysis of the ethyl ester of (-1-(2'-methyl-6'-chloro-4'-sulfophenyl)-5-pyrazolone-3-carboxylic acid) with diazotized aniline and subsequent coupling. By Tropp, 1937. In German.	1.50
7245 PB L 70407	Flavazin 4 G M. In German.	1.50
7246-7267 PB L 70407	Saturn Yellow GG, obtained by coupling diazotized 3-chloro-2-toluidine with 1-(2'-methyl-5'-chloro-4'-sulfophenyl)-5-pyrazolone-3-carboxylic ethyl ester. By Weigele and Fische, 1933, 1934 and 1936. In German.	2.00
7247 & 7257 PB L 70407	These frame numbers are missing.	

Dyes (contd)

7268-7279
PB L 70407
Igelan Yellow RR obtained by coupling diazotized o-chloroaniline with (-1-(2'-sulfophenyl)-3-phenyl-5-pyrazolone). By Weigele, 1941. In German. 1.50

7280-7300
PB L 70407
Igenal Brown I R G, obtained by coupling diazotized 4-amino-2-sulfophenylmethyl-taurine with 3-amino-4-methoxytoluene and subsequent condensation with 3,5-dinitro-2-chlorobenzene sulfonic acid. By Weigele, Fische and Tropp. 1938 and 1939. In German. 1.50
Frames 7283 and 7291-7299 are illegible.

7301-7309
PB L 70407
Igenal Brown I G G. Resorcinol is coupled with diazotized 4-amino-2 sulfophenylmethyl taurine and the mono azo dye thus formed is then coupled with diazotized 2-amino-5-nitrobensene-sulfonic acid. By Tropp and Fische, 1938. In German. 1.50

7310-7319
PB L 70407
Reduction of 4-nitro-2-sulfophenyl-methyl taurine. By Gaelin and Fische. 1937 and 1938. In German. 1.50

7320-7334
PB L 70407
Flavazin S, obtained by coupling diazotized aniline with 1-(4'-sulfophenyl)-5-pyrazolone-3-carboxylic acid. By Tropp, 1934. In German. 1.50

7335
PB L 70407
Hydrazine Yellow S. In German. 1.50

7336-7355
PB L 70407
Flavazine L - Hydrazine Yellow L E G. Starting materials are aniline and 1-(4'-sulfophenyl)-3-methyl-5-pyrazolone. By Tropp and Gross. 1934 and 1938. In German. 2.00

7356-7368
PB L 70407
Saturn Yellow 5 G L, obtained by coupling diazotized (-aniline-2,5-disulfonic acid) with (-1-(2,5-disulfophenyl)-5-pyrazolone-3-carboxylic acid). By Tropp, 1937. In German. 1.50

7369
PB L 70407
Tartrazine 125 (Ludwigshafen) (1,2,5,-aniline-disulfonic acid-azo-1-(phenyl-2',5'-disulfonic acid) -5-pyrazolone-3-carboxylic acid). 1930. In German. 1.50

7370
PB L 70407
Three lacquer-Tartrazine types from Ludwigshafen: Saturn Yellow 3 G, produced from the hydrazine of 2-toluidine-4,5-disulfonic acid and dihydroxy tartaric acid; Tartrazine GGX, produced from the hydrazine of 2-toluidine-4,5-disulfonic acid and dihydroxy tartaric acid; Tartrazine 1,2,5, produced from the hydrazine of 1,2,5,-aniline-disulfonic acid and dihydroxy tartaric acid. 1930. In German. 1.50

7371-7372
PB L 70407
Production of Tartrazin 1,2,5, by condensing diethyl oxalate with 1-phenyl-hydrazine-2,5-sodium di-sulfonate and coupling the product with diazotized 1,2,5,-aniline-disulfonic acid. 1930. In German. 1.50

7373-7393
PB L 70407
Production of Tartrazin GGX; the starting products being o-toluidine di-acid-2-aminotoluene-4,5-disulfonic acid and GGX-pyrazolone-2'-methyl-4',5'-disulfonic-1-phenyl-5-pyrazolone-3-carboxylic acid. By Tropp, 1940. In German. 2.50

7394
PB L 70407
Production of the hydrazine of ortho-toluidine disulfonic acid by diazotizing ortho-toluidine disulfonic acid-1-methyl-2-aminobenzene-4,5-disulfonic acid and converting the diazo compound into the above product by proper means. 1930. In German. 1.50

7395
PB L 70407
Tartrazin GGX. 1930. In German. 1.50

7396-7449
PB L 70407
Tartrazin O, made by coupling diazotized sulfanilic acid with-1-(4'-sulfophenyl)-5-pyrazolone-3-carboxylic acid. By Tropp, Weigele, Bergmann, Gross, and Riese. 1931-1943. In German. 6.00

7450
PB L 70407
Letter without technical contents. In German. 1.50

7451-7459
7461
PB L 70407
Fulling Yellow H G, made by coupling diazotized diamino-triphenyl-methane with 1-(4'-sulfophenyl) -3-methyl-5-pyrazolone (-pyrazolic acid A). 1935. In German. 1.50

7460
7462-7475
PB L 70407
Fulling Yellow H 3 G, made by coupling tetrazotized 4,4'-diamino-triphenyl-methane with 1-(2'-methyl-6'-chloro-4'-sulfophenyl)-3-methyl-5-pyrazolone. By Tropp, 1935-1936. In German. 1.50

7476-7477
PB L 70407
Agfa Yellow, obtained by coupling the diazotized formaldehyde condensation product of ortho-chloroaniline with chloropyrazolic acid A. 1927. In German. 1.50

7478-7480
PB L 70407
Production of Fulling Yellow 3 G from 4,4'-diamino-2,2'-dimethyl-diphenylmethane and ortho-chloro-phenyl-methylpyrazolone sodium sulfate. By Leopold Casella and Co., 1926. In German. 1.50

7481-7502
PB L 70407
Production of Fulling Yellow H 5 G from ortho-toluidine di-acid-3,3'-toluidine-6,6'-disulfonic acid and aceto acetic anilide. By Tropp, 1934-1938. In German. 2.50

7503-7504
PB L 70407
Production of Fulling Yellow 7552 from tolidine-2,2'-disulfonic acid and aceto acetic anilide. By Eichwede, 1927. In German. 1.50

PB L 70407-S. I.G. FARBENINDUSTRIE A.G., FRANKFURT/MAIN GERMANY. Instructions for the preparation of dyes. (FIAT Microfilm Reel CC 131, Frames 7128-7504, abstract cards) 1922-1945. 69 p. Price: Microfilm-$2.00 - Photostat-$5.00
These are abstract cards of items of reel CC 131 (PB 70407), described above. They were prepared by FIAT abstracters in Germany.

PB L 73485. I. G. FARBENINDUSTRIE A. G., FRANKFURT. Instructions for the preparation of dyes and other organic chemicals. (FIAT Microfilm Reel A 37, Frames 1577-2023). 1923-1944. 446 f. PRICE: Microfilm-$6.25 - Enlargement print-$45.00
This FIAT microfilm reel consists chiefly of items in the field of dye chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Dyes (contd)

Frames	Title	Price
1577-1579 PB L 73485	Procedure for the preparation of acenaphthene quinone and its derivatives. By Sieber, 1934. In German.	1.50
1580-1584 PB L 73485	Working instruction for the preparation of "Acetmethylparamin" (acetomethyl-p-phenylene diamine). 1934. In German.	1.50
1585-1588 PB L 73485	Preparation of 2,3-hydroxynaphthoyl chloride and its conversion into arylide. Condensation of arylamines with acylacetic ester. By Heule, 1934. In German.	1.50
1589-1590 PB L 73485	Manufacturing instructions for "Atzsalz O"("Leukotrop O"); identical with dimethyl phenyl benzyl ammonium chloride. By Ulmer, 1932. In German.	1.50
1591-1592 PB L 73485	Manufacturing instructions for "Leucotrop W" concentrated (calcium salt of dimethylphenyl-benzylammonium sulfonic anhydride-sulfonic acid). By Ulmer, 1932. In German.	1.50
1593-1597 PB L 73485	Preparation of "Algolbrillantgrün BE" (formerly called "Küpen-blaugrün 125"). By Renn, 1936. In German.	1.50
1598-1599 PB L 73485	Instructions for the production of "Algolbrillantgrün BK" base. 1936. In German.	1.50
1600-1635 PB L 73485	Instructions for the production of "Algolorange RF" (dehydrogenation product of 3-hydroxy-8-ethoxy-(1)-thionaphthene). 1929. In German	1.50
1636-1637 PB L 73485	Instruction for the production of "Algolrot 5 B" (commercial grade). 1930. In German.	1.50
1638-1644 PB L 73485	Production of various types of "Algolscharlach GG". By Winnacker, 1930-1937. In German.	1.50
1645-1652 PB L 73485	Production of "Alizarinbraun". By Bisfeld, 1934-1943. In German.	1.50
1653-1654 PB L 73485	Production of "Alizarinbrillant-reinblau SE". By Koch, 1935. In German.	1.50
1655-1678 PB L 73485	Production of "Alizarindirektblau AR". Starting product is the sodium salt of 1-amino-4-bromo-anthaquinone-2-sulfonic acid. By Tampke, Ebert and Kronholz, 1928-1934. In German.	2.50
1679-1687 PB L 73485	Preparation of "Alizarindirektblau A2G", a condensation product of the sodium salt of 1-amino-4-bromo-anthraquinone-2-sulfonic acid with p-amino-acetacilide. By Kronholz, Ebert, and Tampke. 1931-1934. In German.	1.50
1688 PB L 73485	File note re "Alizarinschwarz-S" paste. By Miller, 1938. In German.	1.50
1689-1690 PB L 73485	"Alizarinschwarz WX extra S". By Moldaenke and Tampke, 1934. In German.	1.50
1691-1695 PB L 73485	Production of "Amido H-T-Säure". By Sieber, 1934-1937. In German.	1.50
1696-1698	Production of 2,3-amino-naphthoic acid hydrochloride. By Lanz, 1926. In German.	1.50
PB L 73485		
1699-1704 PB L 74385	Preliminary instructions for the production of aminoethyl carbazole. By Ebert and Moldänke, 1933-1936. In German.	1.50
1705 PB L 74385	Production of the anil of "Sirius-lichtblau F6GL". By Brunner, 1936. In German.	1.50
1706-1712 PB L 74385	Production of "Anil CV" (chlor-oanil). By Brunner, 1936. In German.	1.50
1713-1716 PB L 74385	Production of "Anthralanblau FR", obtained by condensing 1-amino-4-bromoanthraquinone-2-sulfonic acid with m-aminophenyl dihydroxye-thylamide. By Diefenbach, 1937. In German.	1.50
1717-1720 PB L 74385	Production of "Anthramethan", obtained by condensing 1-amino-4-bromoanthraquinone-2-sulfonic acid with "Amido-H-T-Säure". 1934. In German	1.50
1721 PB L 74385	Production of "B-Anthramin", the starting product being beta-amino-anthraquinone. In German.	1.50
1722-1723 PB L 74385	Preliminary instructions for the preparation of "Anthralangelb 49433". By Schlichenmeyer and Schürnig. 1923. In German.	1.50
1724-1725 PB L 74385	"Amino-Fluoren" and intermediate. 1933. In German.	1.50
1726 PB L 74385	"Asplit" solution. By Haase, 1936. In German.	1.50
1727-1728 PB L 74385	"B.D.A. Adjusting Dye", obtained by condensing 1-amino-4-bromo-anthraquinone-2-sulfonic acid with p-aminophenol. 1932. In German	1.50
1729-1734, 1743, 1796-1797, and 1902-1908 PB L 74385	Production of beta-naphthalene sulfonyl chloride and beta-naphthyl thioglycollic acid ("G2R-Säure"). By Tampke and Ochwat, 1931-1937. In German	1.50
1735 PB L 74385	Beta-chloronaphthalene from beta-naphthylamine. By Schultheiss, 1934. In German.	1.50
1736-1737 PB L 73485	Production of 3,4-benzophyrene. By Kränzlein, 1936. In German.	1.50
1738-1742 PB L 73485	2,1-Naphtha-hydroxythiophene ("Braunol"). By Hoffmann, 1943. In German.	1.50
1743 PB L 73485	See Frames 1729-1734.	
1744-1745 PB L 73485	Production of white lead from lead sulfide. 1932. In German.	1.50
1746-1766 PB L 73485	Production of "Brillantsul-foflavin", starting from 4-nitro-naphthalic anhydride. By Gmelin, Eckert, and Marschall. 1930-1937. In German.	1.50
1767-1775 PB L 73485	Production of "Bromatin" (6-bromo-isatin). By Sieber, Trautner, and Hoffmann. 1935-1937. In German.	1.50
1776-1794 PB L 73485	Production of "Bromaminsäure" (4-bromo-1-amino-anthraquinone-2-sulfonic acid). By Bähr, 1930-1934. In German.	1.50
1795	Production of "Bromchlorbetaro-	

Dyes (contd)

PB L 73485 tsalz", obtained by bromination of 2,3-dioxy-5,6-benzo-7-chloro-indolin. 1935. In German. 1.50

1796-1797 PB L 73485 See Frames 1729-1734.

1798 PB L 73485 "CM-Isatin". By Hesse, 1936. In German. 1.50

1799-1813 PB L 73485 "Cellitonechtgrün 5BF" (originally called "Acetatseidengrün"). By Osterloh and Tampke, 1932-1939. In German. 1.50

1814-1816 PB L 73485 Condensation of Quinizarin (1,4-dihydroxyanthraquinone) with ac-tetrahydro-beta-naphthylamine. By Koch, 1935. In German. 1.50

1817-1820 PB L 73485 Production of "Chlorbetarotsalz" (5,6-benzo-7-chloro-2,3-dioxo-indolin). 1935. In German. 1.50

1821-1825 PB L 73485 Production of "Chlornaphthen" (9-chloro-alpha,beta-naphthoxy thiophene). By Hoffmann, 1935. In German. 1.50

1826-1830 PB L 73485 Production of 2-chloro-4-nitro-benzoic acid. By Marschall, 1934. In German. 1.50

1831 PB L 73485 Production of "Chloron D" (alpha-chloroanthraquinone). 1937. In German. 1.50

1832-1833 PB L 73485 "Chlororthamin", obtained by reduction of p-chloro-o-nitro-aniline. By Marschall, 1936. In German. 1.50

1834 PB L 73485 Production of 5-chloro-tolyl thio-glycolic acid. By Moldänke, 1937. In German. 1.50

1835-1836 PB L 73485 Production of "Chromblau 166 (58 657)", obtained by condensing 4-amino-diphenylmethane-4-hydroxy-3-carboxylic acid with 1-amino-4-bromo-anthraquinone-sulfonic acid. By Diefenbach, 1935. In German. 1.50

1837-1838 PB L 73485 Improved instruction for the production of "Chromechtgelb 8GL". By Sieber, 1936. In German. 1.50

1839-1841 PB L 73485 Production of "Cisketon" crude, obtained by condensing 1,4-naphthalene dicarboxylic acid chloride with benzene. By Tampke, 1930. In German. 1.50

1842-1849 PB L 73485 Production of m-chlorotoluene ("CT-61") from m-toluidine. By Ochwat, Müller, and Tampke, 1934. In German. 1.50

1850 PB L 73485 Production of "Cubanabraun R". 1936. In German. 1.50

1851-1853 PB L 73485 Production of cyanoacetamide ("C Amid"). By Marschall and Greune, 1930-1934. In German. 1.50

1854-1858 PB L 73485 "Diaminoechtreinblau G (F-product). By Schultheiss, 1934. In German. 1.50

1859 PB L 73485 Instructions for the purification of dibromo benzanthrone. By Schultheiss, 1934. In German. 1.50

1860-1861 PB L 73485 Production of m-dichlorobenzene from m-chloroaniline. By Müller, 1938. In German. 1.50

1862-1871 PB L 73485 Production of dichloro-isoquinone. By Tampke, 1930. In German. 1.50

1872-1877 PB L 73485 Production of 1,4-dichloronaphthalene. By Tampke, Osterloh, Becker, and Hesse, 1929-1932. In German. 1.50

1878 PB L 73485 Production of 5,8-dichloro-2-naphthalene sulfonyl chloride. By Tampke, 1932. In German. 1.50

1879-1880 PB L 73485 "Di-Ester" (initial product for "Indigosolblau J.B.C."). Starting product is 2-acetamino-3-chloro-anthraquinone. By Ochwat, 1934. In German. 1.50

1881-1897 PB L 73485 Production of the diketimide of peri-acenaphthindiandone and of 1,4,5,8-naphthalene tetra-carboxylic acid. By Langbein and Greune, 1930-1931. In German. 2.00

1898 PB L 73485 Production of 1,5-dimethoxyanthraquinone. 1935. In German. 1.50

1899 PB L 73485 Production of dinitrodiether. 1935. In German. 1.50

1900-1901 PB L 73485 Production of the tanning agent "U S". 1933. In German. 1.50

1902-1908 PB L 73485 See 1729-1734.

1909 PB L 73485 Production of "Grauanthrimid". By Ebert, 1934. In German. 1.50

1910-1911 PB L 73485 Colored solid vat dyes from "Helindon" dyes. By Hoffmann, 1932. In German. 1.50

1912-1915 PB L 73485 Production of "Helindon" dye -vat powders. By Marschall. In German 1.50

1916 PB L 73485 Production of "Helindonblau 3 G", obtained by reacting the reduction product of 1-hydroxyanthraquinone with isatin anilide. By Ochwat, 1935. In German. 1.50

1917-1919 PB L 73485 Production of "Algolviolett BR" paste. Preparation of "Helindonblau 3 R". By Tampke and Marschall, 1933. In German. 1.50

1920 PB L 73485 Preparation of the starting product (dichlorodianilide) of "Helindonbraun C R D". By Winnacker, 1935. In German. 1.50

1921 PB L 73485 Production of "Wollküpengelb 139 (23731) Lu." 1934. In German. 1.50

1922-1923 PB L 73485 Production of "Küpengelb 53694". By Schlichenmeyer, 1934. In German. 1.50

1924-1925 PB L 73485 "Helindongelb CG" and "CGFS". By Marschall, 1936. In German. 1.50

1926-1927 PB L 73485 Production of "Helindongelb C". By Mannchen, 1935. In German. 1.50

1928-1934 PB L 73485 Production of "Helindonkhaki C". By Marschall, 1933-1936. In German. 1.50

1935 PB L 73485 Production of "Helindon" dyes. By Ebert and Tampke, 1933. In German. 1.50

1936-1940 PB L 73485 "Helindonkhaki CR". By Marschall, 1936. In German. 1.50

1941-1942 PB L 73485 "Helindonrot CR". By Marschall, 1936. In German. 1.50

1943-1946 "Helindonschwarz 3 B Küpe fest"

Dyes (contd)

PB L 73485 and "Helindonschwarz T Küpe fest". By Marschall, 1936. In German. 1.50

1947-1950 PB L 73485 Production of "Imit" (hydrocyanocarbo-diphenylimide). 1933. In German. 1.50

1951-1952 PB L 73485 Cobalt catalyst. By Koch, 1935. In German. 1.50

1953 PB L 73485 Production of "Küpengelb 2845" = "Druckgelb 2845". By Schultheiss, 1932. In German. 1.50

1954-1955 PB L 73485 Production of cuprous cyanide. By Hagenbücker. In German. 1.50

1956-1979 PB L 73485 Production of malonitrile. By Tempke and Greune, 1930-1938. In German. 2.50

1980-1984 PB L 73485 Production of "Metasäure AS" and "Indanthrenrotviolett RHA" paste 100 percent. By Bohn, 1934. In German. 1.50

1985-1990 PB L 73485 Production of "Metaphol" (1-hydroxy-4-methoxynaphthalene). 1935. In German. 1.50

1991 PB L 73485 Production of 3-methyl-4-aminodiphenyl. By Moldenke, 1936. In German. 1.50

1992-1993 PB L 73485 Hydrogenation of beta-naphthylamine. By Koch, 1935. In German. 1.50

1994-2006 PB L 73485 Soda starch preparation. By Marschall, 1930-1936. In German. 1.50

2007-2008 PB L 73485 Nitroethylimide base. By Marschall, 1936. In German. 1.50

2009-2013 PB L 73485 "Nitro-T-Säure". By Hilpert, 1934-1936. In German. 1.50

2014-2018 PB L 73485 Nitro methyl acetanilide. By Hilpert, 1934-1936. In German. 1.50

2019-2023 PB L 73485 "Nitracen" (5-nitroacenaphthene) and "Nitralid" (4-nitronaphthalic anhydride). 1931 In German. 1.50

PB L 73485-S. I. G. FARBENINDUSTRIE A. G., FRANKFURT. Instructions for the preparation of dyes and other organic chemicals. (FIAT Microfilm Reel A 37, 1577-2023, abstract cards). 1923-1944. 101p. Price: Microfilm-$3.00 - Photostat-$7.00
These are abstract of the items on reel A 37 (PB 73485) listed above. They were prepared by FIAT abstracters in Germany.

PB L 73484. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN. Reports and instructions on the preparation of dyes and dye intermediates. (FIAT Microfilm Reel A 36, Frames 767-1576). 1924-1946. 809 f. Price: Microfilm-$6.00 - Enlargement print-$81.00.
This FIAT microfilm reel consists chiefly of items in the field of dye chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
767-768 PB L 73484	New instructions for preparing 1,4,5,8-naphthalene tetracarboxylic acid. By Braunsdorf. In German.	$1.50
769 PB L 73484	New application of Trilon in halogenations. By Quint. In German.	1.50
770-771 PB L 73484	Stabilization of halogenated aliphatic hydrocarbons having long C-chains. By Quint. In German.	1.50
772-773 PB L 73484	"Siriuslichtblau FFRL". By Klemme. In German.	1.50
774 PB L 73484	1,4,5,8-Naphthalene tetracarboxylic acid. By Sieber. In German.	1.50
775 PB L 73484	Leather oil 1/90. Derminol. By Marschall. In German.	1.50
776 PB L 73484	"Thio-3 B-Saure" and "Indanthrenrotviolet." By Hoffmann. In German.	1.50
777 PB L 73484	Zapon Fast dyes. By Hoffmann. In German.	1.50
778 PB L 73484	Production of mitigal (3,7-dimethyl thianthrene). By Besler. In German.	1.50
779-780 PB L 73484	Drying of anthrasols on the roller. By Besler. In German.	1.50
781-782 PB L 73484	Use of a simple boiler with steam coil instead of a Sanesreuther boiler with double welded jacket. By Besler. In German.	1.50
783 PB L 73484	Experiences with the Mammoth Pump in producing mitigal. By Besler. In German.	1.50
784 PB L 73484	Use of Vinidur (Igelit) in alizarin plants. By Marschall. In German.	1.50
785 PB L 73484	Drying sheet metal scraper (a discharging device). By Marschall. In German.	1.50
786-795 PB L 73484	Phthaloyl indoles, phthaloyl tetrahydro carbazoles, and dyes prepared therefrom. By Kühn, 1938. In German.	1.50
796-801 PB L 73484	Regarding 6" -chloro-4,3" -oxo-hetero-1-cerium-7',7" -dianthrone. By Becker, 1938. In German.	1.50
802-809 PB L 73484	New vat dyes of the naphthalimide series. By Braunsdorf, 1938. In German.	1.50
810-814 PB L 73484	Synthesis of "Indanthrenbordo RR," the starting product being 5,8-dibromo-1,4-dicarboxylic acid. By Becker, 1940. In German.	1.50
815-828 PB L 73484	Vat dyes from substituted peri-indandiones. By Gruschke and Quint, 1940. In German.	1.50
829-834 PB L 73484	Synthesis of 1,5,9,10-anthracene tetracarboxylic acid and of dyes prepared therefrom. By Becker, 1940. In German.	1.50
835-842 PB L 73484	New chrome dyes. By Diefenbach, 1940. In German.	1.50
843-861 PB L 73484	Anthrasols. By Braunsdorf, 1941. In German.	2.00
862-867 PB L 73484	New vat dyes from cyclic ketones of acenaphthene. By Sieber, 1941. In German.	1.50

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Dyes (contd)

868-873 PB L 73484 — Green vat dyes of the anthracene series. By Schlegel, 1941. In German. 1.50

874-888 PB L 73484 — Indigosols of azo dyes. By Besler and Kühn, 1939. In German. 1.50

889-897 PB L 73484 — Alkoxy perylene tetracarboxylic acids and their dyes. By Quint and Eckert, 1939. In German. 1.50

898-905 PB L 73484 — Observations in producing a stable powder of "Indigosolblau IBC." By Diefenbach and Kontz, 1939. In German. 1.50

906-917 PB L 73484 — Yellow chrome dyes of the type "Chromechtgelb 5 GD." By Eckert, Braunsdorf, and Diefenbach, 1939. In German. 1.50

918-921 PB L 73484 — "Indanthrenrotviolet RH." By Hoffmann, 1942. In German. 1.50

922-925 PB L 73484 — Steaming procedure for the development of indigosols with ammonium chromate (from the Russian periodical "Cotton Industry" 1940, p. 43-44). By Besler, 1942. In German. 1.50

926-938 PB L 73484 — Anthrasols of indigoid dyes. By Schlegel, 1942. In German. 1.50

939-943 PB L 73484 — The significance of the degree of dispersion of anthrasols. By Besler, 1942. In German. 1.50

944-959 PB L 73484 — Anthrasols of azo dyes and "Indanthrengrau M" and "MG". By Besler, and Braunsdorf, 1942. In German. 2.00

960-1049 PB L 73484 — Composition of Höchst dye paste brands and directions concerning their production. In German. 9.00

1050 PB L 73484 — "Dispergamin H" (condensation product of acetoaldehyde ammonia and urea). By Hesse, 1934. In German. 1.50

1051-1052 PB L 73484 — Types of "Movilith" (polyvinyl acetates of varying viscosity). By Hesse, 1934. In German. 1.50

1053-1054 PB L 73484 — "Transketones" (1,5-dibenzoyl naphthalenes). By Osterloh, 1934. In German. 1.50

1055-1056 PB L 73484 — "Tetrasäure" (naphthalene tetracarboxylic acid). By Osterloh, 1934. In German. 1.50

1057-1058 PB L 73484 — Terephthaloyl chloride. By Osterloh, 1934. In German. 1.50

1059-1060 PB L 73484 — Malonitrile. By Osterloh, 1934. In German. 1.50

1061 PB L 73484 — Determination of alpha-isatinanilide. By Osterloh. In German. 1.50

1062-1063 PB L 73484 — Isatinanilide. By Osterloh, 1934. In German. 1.50

1064-1065 PB L 73484 — "Indanthrenscharlach G G," made from naphthalene tetracarboxylic acid and o-phenylenediamine. By Osterloh, 1934. In German. 1.50

1066-1068 PB L 73484 — "Indanthrendruckgelb GOW." By Osterloh, 1934. In German. 1.50

1069-1071 PB L 73484 — "Indanthrengoldgelb GK" base ("Naphthalin-Goldgelb"). By Osterloh, 1934. In German. 1.50

1072-1073 PB L 73484 — "Hydroimid" crude (hydrocyanocarbo diphenylimide). By Osterloh, 1934. In German. 1.50

1074-1075 PB L 73484 — "Hydroimid" pure (hydrocyanocarbodiphenylimide). By Osterloh, 1934. In German. 1.50

1076-1077 PB L 73484 — "Diketimid," made from acenaphthene and malonitrile. By Osterloh, 1934. In German. 1.50

1078-1082 PB L 73484 — "Indigosol O" (leucodisulfuric ester of "Indigo MLB"). By Besler, 1934-1935. In German. 1.50

1083-1086 PB L 73484 — "Indigosol O 4 B" (leucodisulfuric ester of "Indigo MLB-/4B"). By Besler, 1935. In German. 1.50

1087 PB L 73484 — Working instruction for the preparation of "Pyram." By Schulthels, 1936. In German. 1.50

1088-1089 PB L 73484 — "Diester" (preliminary product for "Indigosolblau IBC"). By Ochwat, 1934. In German. 1.50

1090-1091 PB L 73484 — "Thio-3-B-Säure" (4-chloro-2-methyl-phenyl-thioglycolic acid). By Müller, 1935. In German. 1.50

1092-1093 PB L 73484 — "Indigosolblau IBC" (leucotetra-sulfuric ester K-Salt). By Ochwat, 1934. In German. 1.50

1094-1095 PB L 73484 — m-Dichlorobenzene. By Ochwat, 1934. In German. 1.50

1096-1097 PB L 73484 — m-Chlorotoluene. By Ochwat, 1934. In German. 1.50

1098-1100 PB L 73484 — "Indanthrenscharlach GG", made by condensing naphthalene tetracarboxylic acid with o-phenylenediamine. By Müller, 1934. In German. 1.50

1101-1102 PB L 73484 — "Indanthrenbrillantorange GR". By Müller, 1934. In German. 1.50

1103-1105 PB L 73484 — "G 2 R - Thiosäure" (beta-naphthyl-thioglycolic acid). By Ochwat, 1934. In German. 1.50

1106-1107 PB L 73484 — "Blauthiosäure" (= 2,4-dichlorophenyl-thioglycolic acid). By Ochwat, 1934. In German. 1.50

1108-1109 PB L 73484 — "Beta-Chlorid" (2-naphthalene sulfonyl chloride). By Ochwat, 1934. In German. 1.50

1110-1111 PB L 73484 — "Alizarindirektblau A 2 G", obtained by coupling 1-amino-4-bromo anthraquinone-2-sulfonic acid with aceto-1,4-phenylene diamine. By Hilpert, 1936. In German. 1.50

1112-1113 PB L 73484 — "Anthramethan" (magnesium salt), prepared from 1-amino-4-bromo-anthraquinone-2-sulfonic acid and "Amido-H-Acid." By Hilpert, 1936. In German. 1.50

1114 PB L 73484 — "Sulfacridonsäure", prepared from 1-amino-4-bromoanthraquinone-2-sulfonic acid and 4-chloro-anthranilic acid. By Hilpert, 1936. In German. 1.50

1115 PB L 73484 — "Supranolbrillantblau G", prepared from "Anthramethan" and sulfuric acid monohydrate. By Hilpert, 1936. In German. 1.50

Dyes (contd)

1116-1117 PB L 73484 "Amido-ET-Säure". By Hilpert, 1936. In German. 1.50

1118-1119 PB L 73484 "Acetmethylparamin", prepared by catalytic hydrogenation of methylnitro-acetanilide. By Hilpert, 1936. In German. 1.50

1120 PB L 73484 "Chlormetagelbsalz". By Hilpert, 1936. In German. 1.50

1121 PB L 73484 "Chlorgelbsalz", prepared by chlorination of isatin. By Hilpert, 1936. In German. 1.50

1122-1123 PB L 73484 "Indanthrenmarineblau R". By Ebert, 1935. In German. 1.50

1124-1127 PB L 73484 "Indanthrengelb FFRK". By Ebert, 1935. In German. 1.50

1128-1129 PB L 73484 "Pyron", prepared from bromobenzanthrone and azoloanthrone. By Ebert, 1935. In German. 1.50

1130-1131 PB L 73484 "Paramehl", prepared from nitrobenzene, cresolamine, and "Chlorond." By Ebert, 1935. In German. 1.50

1132-1133 PB L 73484 Copper meal, prepared from alpha-amino-anthraquinone, alpha-chloroanthraquinone and bronze copper filings. By Ebert, 1935. In German. 1.50

1134-1136 PB L 73484 "Indanthrendruckblau R". By Hoffmann, 1935. In German. 1.50

1137-1140 PB L 73484 "Indanthrendruckblau 2 G". By Hoffmann, 1935. In German. 1.50

1141-1143 PB L 73484 "Indanthrenkhaki GG". By Ebert, 1935. In German. 1.50

1144-1145 PB L 73484 "Indanthrengelb 3 R". By Ebert, 1935. In German. 1.50

1146-1148 PB L 73484 "Indanthrengelb 3 RT". By Ebert, 1935. In German. 1.50

1149-1150 PB L 73484 "Indanthrenrotviolet RRN". By Marschall, 1934. In German. 1.50

1151 PB L 73484 "Nitracen", prepared by nitration of acenaphthene in glacial acetic acid. By Marschall, 1934. In German. 1.50

1152-1153 PB L 73484 "Nitralid", prepared by oxidation of "Nitracen". By Marschall, 1934. In German. 1.50

1154-1155 PB L 73484 "Brillantflavinsäure". By Marschall, 1935. In German. 1.50

1156 PB L 73484 "Flavinbase". By Marschall, 1935. In German. 1.50

1157 PB L 73484 "Brillantsulfoflavin FF". By Marschall, 1935. In German. 1.50

1158-1159 PB L 73484 "Anil CV" (tetra-chloroquinone). By Marschall, 1935. In German. 1.50

1160-1161 PB L 73484 "Graubase". By Moldaenke, 1935. In German. 1.50

1162-1163 PB L 73484 "Säurealizaringrau G". By Moldaenke, 1935. In German. 1.50

1164-1165 PB L 73484 "Orthamin" (o-phenylenediamine). By Marschall, 1935. In German. 1.50

1166-1167 PB L 73484 "Aethoxyorthamin". By Marschall, 1935. In German. 1.50

1168-1169 PB L 73484 2-chloro-4-nitrobenzoic acid, prepared from 2-chloro-4-nitro-toluene by oxidation with bichromate. By Marschall, 1936. In German. 1.50

1170-1173 PB L 73484 "Derminol-Licker" (tanning agent). By Dr. Sch., 1942. In German. 1.50

1174 PB L 73484 "Bromatin", prepared from isatin and bromine. By Dr. Dic., 1943. In German. 1.50

1175 PB L 73484 "I Grau M.G." By I. G. Farben. In German. 1.50

1176 PB L 73484 Brief instruction note concerning the production of "Indanthrengoldgelb RK". By Diefenbach, In German. Legibility poor. 1.50

1177 PB L 73484 Handwritten instruction for the production of "Indanthrengelb 3 R". By Diefenbach. In German. Legibility poor. 1.50

1178 PB L 73484 "Derminolfett I". By Klemme, 1943. In German. 1.50

1179 PB L 73484 "Grauanthrimid". By Dr. Kl., 1943. In German. 1.50

1180 PB L 73484 "Indanthrendruckschwarz BLP-Marc". By Dr. Kl. 1943. In German. 1.50

1181 PB L 73484 "Trimehl". (Di-(anthraquinonylamino)-anthraquinone). By Dr. Kl., 1943. In German. 1.50

1182-1188 PB L 73484 Organic compounds containing sulfur. By Eckert, 1944. In German. 1.50

1189 PB L 73484 Private information about alkylamino acetic acids. By Eckert, 1944. In German. 1.50

1190-1198 PB L 73484 Correspondence concerning addition agents for lubricants. By Eckert, 1944. In German. 1.50

1199-1200 PB L 73484 Synthesis of polynuclear hydrocarbons that are partially hydrogenated. By Eckert, 1944. In German. 1.50

1201 PB L 73484 Concerning the production of polynuclear hydrocarbons soluble in water. 1944. In German. 1.50

1202-1203 PB L 73484 Brief note on nitro paraffins. By Sedlmayer, 1944. In German. 1.50

1204 PB L 73484 Nitration of "Mepasin". In German. 1.50

1205 PB L 73484 Concerning 1,2,3,4-tetrahydrophenanthrene. By Eckert, 1944. In German. 1.50

1206-1207 PB L 73484 Suggestions regarding sulfur-containing compounds soluble in water. By Eckert, 1944. In German. 1.50

1208 PB L 73484 Concerning aromatic monosulfides. By Eckert, 1944. In German. 1.50

1209 PB L 73484 Inquiry regarding the reaction with nitromethane. By Eckert, 1944. In German. 1.50

1210, 1232-1233 PB L 73484 Concerning carboxylic acids of polynuclear hydrocarbons. By Eckert, 1944. In German. 1.50

1211, 1220, 1224, 1221 PB L 73484 Derivatives of "Mepasin". By Eckert, 1944. In German. 1.50

Dyes (contd)

1212, 1217-1219 PB L 73484 — Concerning organic compounds soluble in water. By Eckert, 1944. In German. 1.50

1213 PB L 73484 — Concerning residues of chlorinated Kogasin. By Pousch, 1944. In German. 1.50

1214,1235 PB L 73484 — Water-soluble derivatives of phenanthrene. By Eckert, 1944. In German. 1.50

1215-1216 PB L 73484 — Concerning production of amino-sulfamides. By Eckert, 1944. In German. 1.50

1221,1230 PB L 73484 — Suggestions regarding aromatic carboxylic acids. By Eckert, 1944. In German. 1.50

1222 PB L 73484 — Reacting aliphatic amines with halogenated aliphatic acids. In German. 1.50

1223,1226 PB L 73484 — Regarding phenanthrene carboxylic acids. By Eckert, 1944. In German. 1.50

1225,1234, 1238-1239 PB L 73484 — Concerning cutting oils and lubricants. By Sieber, Hermann, Eckert and Pousch, 1944. In German. 1.50

1227-1229 PB L 73484 — Research projects of chemists of the Alizarin Department. By Eckert, 1944. In German. 1.50

1236 PB L 73484 — Concerning abietic acid. By Eckert, 1944. In German. 1.50

1237 PB L 73484 — Notes on new fields of research. By Eckert, 1944. In German. 1.50

1240 PB L 73484 — Suggestions regarding the addition of aromatic hydrocarbons on unsaturated acids. By Eckert, 1944. In German. 1.50

1241 PB L 73484 — Suggestions regarding reactions of acenaphthene with fatty acid chlorides. By Eckert, 1944. In German. 1.50

1242 PB L 73484 — Suggestions concerning reactions of acenaphthene with unsaturated acids. By Eckert, 1944. In German. 1.50

1243,1252 PB L 73484 — Note referring to addition agents for relief printing. By Eckert. In German. 1.50

1244 PB L 73484 — Concerning "Pyren" derivatives. By Eckert, 1944. In German. 1.50

1245 PB L 73484 — Concerning m-xylene derivatives. By Eckert, 1944. In German. 1.50

1246 PB L 73484 — Addition products to dihydro-phthalic acid. By Eckert, 1944. In German. 1.50

1247 PB L 73484 — Note on a reaction product of "Amino-Kogasin" with bromoacetic acid. By Eckert, 1944. In German. 1.50

1248-1251 PB L 73484 — New preparations for tests in the laboratory for lubricants. By Eckert, 1945. In German. 1.50

1253 PB L 73484 — Brief note on crude phenanthrene. By Eckert, 1945. In German. 1.50

1254 PB L 73484 — New phenanthrene preparations for the laboratory for lubricants. By Eckert, 1945. In German. 1.50

1255-1256 PB L 73484 — Concerning "Pyren" derivatives. By Eckert, 1945. In German. 1.50

1257 PB L 73484 — Concerning phenanthrene derivatives. By Eckert, 1945. In German. 1.50

1258 PB L 73484 — Kepesin amino acetic acid in experiments for rust prevention. 1945. In German. 1.50

1259-1276 PB L 73484 — Summary of formulas regarding cutting oils and additions to relief printing. By Eckert, 1944. In German. 1.50

1277-1278 PB L 73484 — Concerning letters and complaints by customers. By Gutmann, 1943. In German. 1.50

1279-1280 PB L 73484 — Concerning "Persistol V. S." By Bastian, 1942. In German. 1.50

1281 PB L 73484 — Calculation of expenses for the preparation of toluene and benzene. By Eckert, 1943. In German. 1.50

1282-1302 PB L 73484 — Letters and brief notes concerning toluene synthesis. By Eckert, 1943. In German. 2.50

1303-1308 PB L 73484 — Concerning the synthesis of benzyl chloride from benzene, and of toluene from benzyl chloride. By Brumm, 1935. In German. 1.50

1309 PB L 73484 — Effect of hydrogen chloride on formaldehyde. (Short note). In German. 1.50

1310-1324 PB L 73484 — Toluene synthesis. 1935. In German. 1.50

1325-1328 PB L 73484 — "Sudanblau G", its starting materials being alpha-chloroanthraquinone, 1-chloro-4-hydroxy anthraquinone, quinizarin, alpha-amino anthraquinone, and potassium alpha-anthraquinone sulfonate. By Sedlmayer, 1946. In German. 1.50

1329-1337 PB L 73484 — "Alizarinrubinol R". By Sedlmayer, 1946. In German. 1.50

1338-1341 PB L 73484 — Concerning "Eulans". In German. 1.50

1342-1345 PB L 73484 — Studies on "Indigosolgrün I.GG" and its preliminary products. By Eckert, 1938. In German. 1.50

1346-1348 PB L 73484 — "Brillantsulfoflavin F.F." and its preliminary products. By Eckert, 1938. In German. 1.50

1349-1351 PB L 73484 — Studies in the field of "Brillant-sulfoflavin". By Braunsdorf, 1938. In German. 1.50

1352-1363 PB L 73484 — Desirable changes in the production methods for certain dyes. 1938. In German. 1.50

1364 PB L 73484 — Change from a monster press to a suction filter. 1938. In German. 1.50

1364a-1379 PB L 73484 — Simple derivatives of vat dyes of the Alizarin Department. By Ochwat, 1936. In German. 2.00

1380-1576 PB L 73484 — Constitutional formulas and methods for the production of vat dyes. By Ochwat, 1936. In German. 20.00

PB L 73484-S. I. G. FARBENINDUSTRIE A. G., FRANKFURT AM MAIN. Reports and instructions on the preparation of dyes and dye intermediates. (FIAT Microfilm Reel A 36, Frames 767-1576, abstract cards). 1934-1946. 182 p. Price: Microfilm-$4.00 - Photostat-$13.00.

Dyes (contd)
These are abstract cards of the items on reel A 36 (PB L 73464), described above. They were prepared by FIAT abstracters in Germany.

PB L 73607. I.G. FARBENINDUSTRIE A.G., HÖCHST, GERMANY. Report on the preparation of dyes and dye intermediates. (FIAT Microfilm Reel CC 130, Frames 6282-7127) 1922-1946. 845 f. Price: Microfilm-$6.00 - Enlargement Print-$84.50
This FIAT microfilm reel consists of items in the field of dye chemistry. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
6282-6287 6289-6293 PB L 73607	Lake Red Toner LCD, made by coupling diazotized cholometatoluidine acid with beta-naphthol. By Becker, Huber and Vossen. 1930-1945. In German.	$1.50
6288 PB L 73607	Pigment Lake Red LCD. By Huber, 1933. In German.	1.50
6294-6298 6300-6302A PB L 73607	Lake Red Toner LCL. By Becker, Huber, Vossen and Lans. 1930-1945. In German.	1.50
6299 PB L 73607	Instructions for the production of resin soap solution. By Huber, 1932. In German.	1.50
6303-6306 PB L 73607	Lake Red Toner LCLL, made by coupling diazotized chlorotoluidine acid and Tobias acid with beta-naphthol. By Weigele and Huber, 1942-1944. In German.	1.50
6307-6354 PB L 73607	Permanent Red Toner NCR, being the mono azo dye of 5-amino-2-chloro-4-sulfo-1-benzoic acid and beta-naphthol. By Weigele, Funke and others. 1931-1943. In German.	5.00
6355-6374 6377-6378 PB L 73607	Pigment Lake Red MC. By Bücking, 1931. In German.	2.50
6375-6376 PB L 73607	Preparation of the dye: p-sulfanthranilic acid/beta-naphthol. By Bücking, 1931. In German.	1.50
6379-6380 PB L 73607	Preparation of the dye: Geigy acid coupled with beta-naphthol. By Bücking, 1929. In German.	1.50
6381-6403 6407,6409 PB L 73607	Pigment Lake Red LC. By Huber, Becker and Vossen. 1928-1939. In German.	2.50
6404-6406 6408 6418-6419 6405A (included) PB L 73607	Pigment Lake Red LP. By Eber, 1928. In German.	1.50
6405-6406 6405A (Included) 6408, 6410-6414 6411A (included) 6420-6421 PB L 73607	Pigment Lake Red LP, made by coupling diazotized p-nitranilic acid with beta-naphthol. By Weigele, 1937-1942. In German.	1.50
6415-6417 PB L 73607	Lake Red P, made by coupling p-nitranilic acid (mol. wt. 218) with beta-naphthol. In German.	1.50
6422-6425 PB L 73607	Blue 4022, made by coupling tetrazotized o-dianisidine with Naphthol AS-BO. By Beck, 1934-1936. In German.	1.50
6426-6432 PB L 73607	Bordeaux Pigment (20% paste); made by coupling diazotized 3-nitro-4-anisidine with Naphthol AS-D. By Beck and Mersch, 1934-1937. In German.	1.50
6433-6440 6446-6449 PB L 73607	Flag Red Pigment (25% paste), made by coupling diazotized p-dichloroaniline with Naphthol AS. By Weigele, Funke, Landers, Beck and Mersch. 1934-1942. In German.	1.50
6441 PB L 73607	Directions for the production of paints. 1936. In German.	1.50
6442-6445 PB L 73607	Flag Red - Bordeaux Pigment. By Landers and Funke, 1935. In German.	1.50
6450-6468 6471-6475 6479-6493 PB L 73607	Hansa Yellow G, made by coupling diazotized 3-nitro-4-toluidine with acetoacetic ester. By Becker, Huber and Funke. 1927-1945. In German.	1.50
6469 PB L 73607	Hansa Yellow GSA. By Becker, 1927. In German.	1.50
6470 PB L 73607	Hansa Yellow GA. By Becker, 1927. In German.	1.50
6476-6478 PB L 73607	Hansa Yellow GF. In German.	1.50
6494-6502 PB L 73607	Hansa Yellow G E, prepared from diazotized 4-chloro-2-nitro-aniline and 3-nitro-4-anisidine, which are coupled with acetoacetanilide. By Weigele, 1942-1943. In German.	1.50
6503-6507 6509-6520 6524-6526 PB L 73607	Hansa Yellow 5 G, made by coupling diazotized o-nitroaniline and diazotized 3-nitro-4-toluidine with acetoacetic ester. By Erber, Huber, Becker and Funke. 1922-1934.	2.00
6508 PB L 73607	Lithosol Yellow Y. By Risse, 1939. In German.	1.50
6521-6523 6527 6593-6594 6597-6598 PB L 73607	Hansa Yellow 5 GF, obtained by coupling diazotized o-nitroaniline with acetoacetanilide. 1924. In German.	1.50
6528-6557 PB L 73607	Hansa Yellow 10 G, obtained by coupling diazotized chloro-o-nitroaniline with acetoaceto-o-chloroanilide. By Kuhn, Huber, and Becker. 1922-1943. In German.	3.00
6558-6569 PB L 73607	Hansa Yellow GA, obtained by coupling diazotized 3-nitro-4-toluidine with acetoacetanilide. By Huber and Becker, 1937-1940. In German.	1.50
6570-6576 6578-6579 PB L 73607	Hansa Yellow G R, obtained by coupling diazotized 4-chloro-nitroaniline with acetoaceto-m-xylidide. By Becker and Erber, In German.	1.50
6577 PB L 73607	Hansa Yellow GRF. 1924. In German.	1.50
6580-6583 PB L 73607	Hansa Yellow GGR, made by coupling 3-nitro-4-toluidine (diazotized with a small addition of nitro-p-anisidine) with acetoacetanilide. By Becker and Tropp, 1939. In German.	1.50
6584-6592 6595-6596 PB L 73607	Hansa Yellow GT, made by coupling diazotized 3-nitro-4-toluidine with acetoacetanilide. By Huber, Becker, and Erber, 1921-1944. In German.	1.50
6599-6602 PB L 73607	Hansa Yellow 10 GT, made by coupling diazotized chloro-o-nitro-aniline with acetoaceto-o-chloroanilide. By Huber, 1942. In German.	1.50

Dyes (contd)

6603-6611 PB L 73607 — Hansa Yellow 3 R, obtained by coupling diazotized nitro-p-anisidine with acetoaceto-o-toluidide. By Funke and Becker, 1936-1943. In German. 1.50

6612-6622 PB L 73607 — Bronze Red C, made by coupling diazotized 2-chloro-5-toluidine-4-sulfonic acid with beta-naphthol. By Becker and Funke, 1933-1937. In German. 1.50

6623-6632 6638-6651 PB L 73607 — Helio Bordeaux BL, made by coupling alpha-naphthylamine (diazotized with a small addition of beta-naphthylamine) with 1,5-naphthol sulfonic acid. In German. 2.50

6633-6637 PB L 73607 — Helio Bordeaux B, made by coupling alpha-naphthylamine (mol. wt. 143) with 1,5-naphthol-sulfonic acid (mol. wt. 224). By Funke. In German. 1.50

6652-6658 PB L 73607 — Lake Bordeaux B, made by coupling diazotized chloroanisidine with R Salt. By Becker, Tropp, and Huber, 1930-1939. In German. 1.50

6659-6735 PB L 73607 — Lake Red C, made by coupling diazotized chloro-m-toluidine acid with beta-naphthol. By Erber, Becker, Voss, Lanz, Huber, Tropp and Heele. 1921-1939. In German. 8.00

6736-6739 PB L 73607 — Sudan Brown RR, made by coupling diazotized alpha - naphthylamine with m-phenylene-diamine. By Becker, 1945. In German. 1.50

6740-6742 PB L 73607 — Sudan Brown B, made by coupling diazotized p-phenetidine with alpha-naphthol. By Braun and Siebert, 1945-1946. In German. 1.50

6743-6748 PB L 73607 — Sudan Red 5 B, made by coupling diazotized amino-azoxylene with beta-naphthol. By Huss and Siebert. In German. 1.50

6749-6750 PB L 73607 — Sudan Yellow 3 G, made by coupling diazotized aniline with phenyl-3-methyl-5-pyrazolone. By Heigele, Braun and Siebert, 1945. In German. 1.50

6751-6753 PB L 73607 — Sudan Orange R, made by coupling diazotized aniline with beta-naphthol. By Braun, Weigele, and Siebert, 1945. In German. 1.50

6754-6768 PB L 73607 — Dianil Orange G, made by coupling diazotized primulin with 4'-sulfo-1-phenyl-5-pyrazolone-3-carboxylic acid. By Tropp and Weigele, 1934-1937. In German. 1.50

6769-6782 PB L 73607 — Dianil Yellow RR, made by coupling diazotized primulin thiotoluidine acid with 4'-sulfo-1-phenyl-3-methyl-5-pyrazolone-3-carboxylic acid. By Tropp, 1933-1937. In German. 1.50

6783-6789 PB L 73607 — Dianil Yellow R, made by coupling diazotized primulin with pyrazolone-3-methyl-1-phenyl-5-pyrazolone. By Tropp, 1935-1937. In German. 1.50

6790-6812 6814 PB L 73607 — Dianil Yellow 5 G, made by coupling diazotized dehydro-thiotoluidine-sulfonic acid with acetoacetanilide. By Weigele and Tropp. 1926-1944. In German. 2.50

6813 PB L 73607 — m-Nitrobenzoic acid, prepared from m-nitrotoluene and chromium salt. In German. 1.50

6815-6850 PB L 73607 — Dianil Yellow 3 G, made by coupling diazotized sodium dehydro-thiotoluidine-sulfonate with acetoacetic ester. By Tropp, Weigele, and Risse. 1926-1938. In German. 4.00

6851-6869 6874-6877 PB L 73607 — Autazol Chrome Black R, made by coupling 2-amino-5-bitrophenol with J-acid. By Weigele, Siebert, Huss and Tropp, 1939-1940. In German. 2.50

6870-6873 PB L 73607 — Wollstra Chrome Black, made by coupling diazotized m-nitro-o-aminophenol with amino-naphthol sulfonic acid 2-5-7. By Schmid, 1938. In German. 1.50

6878-6894 PB L 73607 — Acid Alizarin Flavine R, made by coupling diazotized anthranilic acid with 4'-sulfo-3-methyl-1-phenyl-5-pyrazolone. By Tropp, 1934-1937. In German. 2.00

6895-6904 PB L 73607 — Acid Alizarin Flavine GF, made by coupling diazotized anthranilic acid with 2'-hydroxy-3'-carboxy-5'-sulfo-1-phenyl-3-methyl-5-pyrazolone. By Tropp, 1931-1934. In German. 1.50

6905-6912 PB L 73607 — Acid Alizarin Bordeaux B, made by coupling diazotized 2-amino-phenol-4-chloro-5-sulfonic acid with 1-phenyl-pyrazolone-3-carboxamide. By Weigele and Lange, 1933-1939. In German. 1.50

6913-6929 PB L 73607 — Meta Chrome Red 5 G, made by coupling diazotized 2-aminophenol-4-chloro-5-sulfonic acid with 3-methyl-1-phenyl-5-pyranzolone. By Tropp and Ebeling. 1928-1938. In German. 2.00

6930-6949 PB L 73607 — Meta Chrome Red BB. By Tropp and Fischer, 1935-1940. In German. 2.00

6950-6965 PB L 73607 — Chroming Yellow GGL, made by coupling diazotized p-toluidine with 1-3' '-carboxy-4''-hydroxy-1''-2-5-sulfodiphenylsulfone-3-methyl-5-pyrazolone. By Weigele, Tropp, and Fischer. In German. 2.00

6966-6995 6999-7001 PB L 73607 — Acid Alizarin Red B, made by coupling diazotized anthranilic acid with R Salt. By Weigele, Tropp and Lanz. 1929-1943. In German. 3.50

6996-6998 PB L 73607 — Pigment Scarlet 3 BF, made by coupling diazotized anthranilic acid with 2,3,6-naphthol disulfonic acid. 1930. In German. 1.50

7002-7013 PB L 73607 — Acid Alizarin Red 3 B, made by coupling 5-chloro-1-diazo-2-naphthol-4-sulfonic acid with 1-phenyl-3-methyl-5-pyrazolone. By Tropp. 1934. In German. 1.50

7014-7031 PB L 73607 — Acid Chrome Yellow GL, made by coupling diazotized 4-chloro-2-(3'-amino-6'-methylbenzene-sulfamino) -1-hydroxybenzene-6-sulfonic acid with 1-(6'-chloro-2'-methylsulfophenyl) -3-methyl-5-pyrazolone. By Weigele and Tropp, 1931-1938. In German. 2.00

7032-7052 PB L 73607 — Acid Chrome Yellow 3 GL, made by coupling diazotized o-sulfanilic acid with (1-(3''-carboxy-4''-hydroxy-1'',2',5'-sulfodiphenylsulfone)-3-methyl-5-pyrazolone). By Tropp, 1930-1935. In German. 2.50

7053-7067 PB L 73607 — Acid Alizarin Red GW, made by coupling diazotized 3-amino-5-chloro-4-hydroxy-benzene-sulfonic acid with 1-phenol-5-pyrazolone-3-carboxamide. By Tropp. 1933-1936. In German. 1.50

7068-7091 — Supramine Yellow R, made by coupling

Dyes (contd)

PB L 73607 — diazotized p-toluidine-sulfanilide with 4'-sulfo-3-methyl-1-phenyl-5-pyrazolone. By Weigele, Tropp, Schmid, and Huss. In German. 2.50

7092-7112 PB L 73607 — Supramine Yellow 3 GL, made by coupling diazotized aniline-m-sulfanilide with 2'-chloro-5'-sulfo-3-methyl-1-phenyl-5-pyrazolone. By Tropp and others. In German. 1929-1938. 2.50

7113-7127 PB L 73607 — Supranol Yellow GG, made by coupling tetrazotized m-toluidine with chloro pyrazole acid 5 and phenol and subsequent treatment. By Weigele and Tropp. 1939. In German. 1.50

PB L 73607-S. I. G. FARBENINDUSTRIE A.G., HÖCHST, GERMANY. Reports on the preparation of dyes and dye intermediates. (FIAT Microfilm Reel CC 130, Frames 6282-7127, abstract cards) 1922-1946. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00
These are abstract cards of items reproduced on reel CC 130 (PB L 73607), described above. They were prepared by FIAT abstracters in Germany.

Paints, Varnishes and Lacquers

PB L 80795. U. S. AERONAUTICAL BOARD. Cresol. (Army-Navy Aeronautical Specification AN-C-164). Jan 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21550-R. U. S. AERONAUTICAL BOARD. Paint; blended type coal tar pitch base bituminous. (For basic specification see PB 21550, vol. 1, p. 1283). (Army-Navy Aeronautical Specification AN-P-31a, rev.). Mar 1947. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

* PB L 75829. WEST, H. W. and others. Shellac; Stroever and Co., Bremen. (BIOS Final Rept 1207, Item 22). Feb. 1947. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Three processes for manufacture of shellac are described briefly and illustrated. In the alcohol process Seedlac or Sticklac was dissolved in alcohol at a temperature of 40° - 50° C. The alcohol was distilled off and a drawing of the distillation unit is shown. In the alkali process, originally carried out in wooden steam heated vats, 400 kg. Seedlac or Sticklac was dissolved in caustic soda solution at a temperature of 70° - 80° C. for a period of four hours. The steam process was a short period process for producing lower grade shellac. It had been employed at the new factory which was destroyed. Three units were in course of being installed at present factory. Plant equipment and disposition are listed. This firm and others are covered in BIOS final report No. 604 (PB 41239, v. 3, p. 157) entitled "The shellac industry in Germany".

Chemical Engineering and Equipment

PB L 73951. DEUTSCHE GOLD- UND SILBERSCHEIDEANSTALT, FRANKFURT/MAIN. Carbon black plant drawings. (FIAT Microfilm Reel AL-158, Frames 1-56) 1939-1940. 56 f. Price: Microfilm-$1.50 - Enlargement print-$6.00
This film, prepared by FIAT investigators in Germany, contains a number of technical drawings - most of them difficult to read - of complete factory installations and component parts of a plant producing carbon black from anthracene.

* PB L 81620. EASTES, J. A. D'ESTE. Tabletting and packaging machinery in the German pharmaceutical industry. (BIOS Final Rept 1122, Item 24.31). Jan-Feb 1947. 18 p. Price: Microfilm-$1.25 - Microfilm-$2.00
This survey was carried out both from the "Users" angle; i.e., the pharmaceutical manufacturer, and from that of the engineering production of such machines. Fifteen factories were visited, seven "Users", and eight "Manufacturers". This report is divided in two sections, firstly reports on the "Users" targets and secondly those on "Manufacturers". In the section on "Users", packaging machinery is dealt with first, followed by tablet pressing apparatus. Appendix, with photographs of various machines, is included.

PB L 74408. JENQUEL & HAYN, HAMBURG, GERMANY. Ore-dressing plant reparations data. (FIAT Microfilm reel GG-78, Frames 1-39). 39 f. Jul 1946. Price: Microfilm-$1.25 - Enlargement print-$4.00
This FIAT microfilm reel consists of a reparations inventory, prepared by the British element of the Control Commission for Germany, of the Jenquel & Hayn firm, Hamburg, engaged in the treatment of manganese and the processing of other minerals, especially peroxide of manganese. A history of the firm is included.

Miscellaneous Chemicals

PB L 52010. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische berichte Jan. 1942. First meeting of the cooperative group for surface improvement of metals. Jan 1942. 71 p. Price: Microfilm-$2.00 - Photostat-$5.00
The individual items are listed below and will be available as photostat copies only. The entire publication may be purchased in microfilm form for $2.00. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
4 PB L 52010	Instructions. In German. This page contains 9 administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four-year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development.	$1.00
5-6 PB L 52010	List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed.	1.00
7 PB L 52010	Introductory remarks. In German. The purpose of the various cooperative groups is outlined.	1.00
9-13 PB L 52010	MÜLLER, FRIEDRICH (Tech. Hochschule, Dresden). Fundamentals and problems of electrodeposition of metals. In German. An outline is given of the following problems pertaining to the deposition of metals: Mechanism of cathodic deposition; structure of the double layer at the electrode/soln. interface; effect of pH changes in the cathode film; and effect of c.d. Need for further basic information is stressed in relation to numerous practical applications which are mentioned.--From Chemical Abstracts.	1.00
14-24 PB L 52010	FISCHER, HELLMUT (Siemens & Halske A.-G., Berlin). Anodically formed layers on metals. In German. F. discusses the scientific principles	1.00

underlying the production of protective films 5-40 μ thick. Most of the information pertains to Al, but Mg and Zn films are also mentioned. For the formation of these layers there are necessary a certain reactivity of the metal, the possibility for the formation of fine capillaries in the film through which the growth can be continued, and low soly. of the film in the electrolyte. The films grow from the outside towards the metal because of reactions going on in the pores which vary in size depending on the electrolyte used. The interpretation of anodic oxidation with a.c. is complicated by production of H in the pores which acts to widen them and to stir the electrolyte nearest the metal. The effects of impurities and alloys on the oxidation potentials vary (Mg added to Al decreases, while Si increases, the necessary oxidation potentials). Smaller voltages are required for homogeneous than for heterogeneous alloys. Since all electrolytically formed layers have pores, these must be closed before the film can serve as a protection against corrosion. This can be done mechanically (with fats, waxes, and lacquers) or chemically (after treatment of the oxide films on Al with dichromate). The appearance of the layers depends on the metals, methods, and electrolytes used. Completely colorless films can be obtained on 99.99% Al. The reflective power of electrolytically polished Al is hardly influenced by such films. The oxide films may become colored if certain electrolytes are codeposited and decomp. (a yellow-bronze color can be obtained with oxalic acid on Al, a green color with chromate soln. on Zn). However, nearly all the anodic oxide layers can be colored with certain org. dyes, which penetrate the pores, or with inorg. compds., which are pptd. in the pores. In the Seofoto process the oxide layer on Al is satd. with light-sensitive Ag salts and serves as an excellent gelatin-free photographic plate.--From Chemical Abstracts.

25-32
PB L 52010 PFANHAUSER, W. (Langbein-Pfanhauser Werke, Leipzig). Modern electroplating technique. In German. 1.00
The topic is discussed with relation to: (1) the 4-year plan; (2) the military program; (3) trends of developments abroad and in Germany; (4) exclusive developments in Germany; (5) future problems; and (6) scientific investigations abroad and in Germany. Prohibition of all metals except Zn, Cr, and Fe for surface coatings led to intensive investigations of the electrodeposition of these metals. The use of galvanized steel cartridges saved much needed brass. A new method working at c.d. of 1000-2000 amp./sq. cm. produces Zn deposits 0.3 mm. thick in 2 hrs. on profiled Fe pieces. Newest trends in development are: (a) progressive automatization of the processes; (b) production of deposits with a high luster to save expensive polishing; (3) production of heavy deposits in a short time to save space and installation costs; (d) introduction of simple and reliable methods of analysis into the factories; (e) improvements of throwing power and penetrating effect of galvanic baths; and (f) control of thickness, luster, hardness, and adherence of the deposits. The most outstanding German developments are: (1) the codeposition of noble and other metals by pulsating application of d.c. of different voltages for the production of deposits of desired hardness and color; (2) production of so-called "Ni-snow" for Ni-Fe storage batteries; (3) the galvanizing of nonmetallic surfaces (plastics). As most important future problems are mentioned: (a) an evaluation of the protective value of deposits; (b) characterization of the throwing power of plating baths; (c) electrodeposition of Fe and Fe alloys; (d) superimposed a.c. in the electrodeposition of metals; (e) deposition of alloys; (f) development of nonpoisonous baths (eliminating cyanides); (g) further development of simultaneous deposition of 2 metals; (h) developments in the field of electrophoresis; and (i) deposition of technically valuable deposits of Mn, Mo, W, U. The fact that developments in this field in Germany have been lagging behind those of the English-speaking countries is explained as due to the lagging industrialization, the reluctance of German researchers to work on practical problems, and the lack of government support.--From Chemical Abstracts.

33-40
PB L 52010 GRUBE, G. (Tech. Hochschule, Stuttgart). The electrodeposition of manganese from aqueous solutions. In German. 1.00
From acid solns. at high c.d. it is possible to obtain Mn deposits contg. up to 96% total Mn and up to 83% metallic Mn, but they are of no practical value because of the presence of oxides. Addition of NH_4 salts in sufficient concn. eliminates this difficulty. At an acidity of 0.04 N the current efficiency is at an optimum, and deposits of pure soft and ductile Mn several tenths of a mm. thick can thus be obtained. To produce deposits 1.0-1.5 mm. thick, it is necessary to maintain the compn. of the electrolyte const. by circulation through a replenishing tank and to use a rotating cathode. Also, the electrolyte in the anode compartment must be circulated and passed through a filter to free it from MnO_2 which forms during the electrolysis. For max. current efficiency (70%) a c.d. of 0.06-0.07 amp./sq. cm. is used with the cathode rotating at a rate of 1000 r.p.m. At higher speeds of rotation the current efficiency decreases. Deposits thicker than 1-2 mm. cannot be obtained because the freshly deposited Mn is in the γ form which, at room temp., changes into the α form; this causes stresses which create troublesome cracks. This is accentuated by the soly. of H in the different forms of metallic Mn, which is considerably smaller in the α form than in the γ form.--From Chemical Abstracts.

41-48
PB L 52010 BILFINGER, ROBERT (Langbein-Pfanhausen-Werke, Leipzig). Technical chromium plating from chromic acid solutions. In German. 1.00
Properties and uses of various types chromium platings are summarized.

49-60
PB L 52010 SANDER, W. (Th. Goldschmidt A.-G., Essen). Tinning of cast iron after deposition of an electrolytically produced iron film. In German. 1.00
Since it is desirable to produce a

solid metallic bond between bearing metal and its housing, the latter is usually tinned before the bearing is coured. This is difficult in the case of cast iron housings unless a layer of Fe is first electrolytically deposited on the cast iron. Even these deposits will flake off unless they are heat-treated, but the hardness of the cast iron decreases with prolonged treatment and at higher temps. Treatment at 800° for 20 min. was found optimal. In an extension of these observations to practical applications it was found that special care in the pretreatment and electrolysis was not necessary. Even if the deposit was scraped off, the heat-treatment of the cast iron in contact with the deposit had produced a loss of C in the surface layers of the cast iron and thus made it suitable for tinning.--From Chemical Abstracts.

61-69
PB L 52010 MÜLLER, ERICH (Tech. Hochschule, Dresden). The theory of chromium deposition from aqueous chromic acid solutions. In German. 1.00
Current-voltage curves of purest chromic acid solns. and Au electrodes show that this strong oxidizing agent cannot be reduced electrolytically either to Cr^{+++} or to Cr. This is explained on the basis of a protective film, presumably $CrOHCrO_4$, which, because of its alignment in the elec. field, is insol. in the chromic acid. This situation is altered by the presence of another acid, such as H_2SO_4, when both reductions, to Cr^{+++} and to Cr, can take place at different potentials. The 2 reductions go on simultaneously with a Cr electrode. One must consequently distinguish between primary Cr deposition in which the non-Cr metal is coated with Cr, and a secondary Cr deposition in which the deposit grows in thickness. Only the first of these is dependent on the nature of the metal to be plated.--From Chemical Abstracts.

70-75
PB L 52010 Discussion. In German. 1.00
The various problems arising during the discussion of the above papers and the critical remarks and the supplementary suggestions made are summerized.

PB L 52006. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. First meeting of the cooperative group for textile fibers, June 28, 1940. Jun 1940. 120 p. Price: Microfilm-$3.00 - Photostat-$8.00
The individual items are listed below and will be available as photostat copies only. The entire publication may be purchased in microfilm form for $3.00. Please include PB and page numbers when ordering individual items. In German.

Pages	Title	Price
3 PB L 52006	List of participants. In German. The names of the representatives of various governmental agencies, industrial enterprises, universities, etc., who were present at the meeting are listed.	$1.00
5-6 PB L 52006	Introductory speech. In German. The motives which led to the establishment of the various cooperative groups, their problems and tasks are outlined.	1.00
7-8 PB L 52006	Instructions. In German. These pages contain o administrative rules and instructions for the meetings of the cooperative groups to facilitate research for the "four-year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development).	1.00
9-15 PB L 52006	SCHEPP, R. (Aschaffenburger Zellstoff Werke, A.G., Berlin). Developments in the production of dissolving pulps. In German. A descriptive article, without exptl. data or references.--From Chemical Abstracts.	1.00
17-28 PB L 52006	SCHIEBER, W. (Thuringische Zellwolle A.G., Schwarza). New sources of raw materials for cellulose. In German. Increased utilization of cellulose-containing plants already cultivated in Germany, and growing of new plants is recommended. Economic and technical conditions in connection with the various kinds of plants are described in detail.	1.00
29-39 PB L 52006	DÖHR, R. E. (Phrix G.m.b.H., Hirschberg, Germany). Influence of methods of preparation on the properties of pulp and staple fiber. In German. By the use of a series of bar graphs, D. shows the effects of various acid or alk. treatments on the α-, β-, and γ-cellulose, and the glucose, mannose, and xylose contents of spruce, beech, pine, aspen, and straw pulps. (Invariably, small amts. of mannose-yielding materials are reported in the hardwoods.) Whereas repeated alkali extn. gives a pulp nearly free from hemicelluloses, the residual α-celluloses still retain appreciable amts. of xylan and small amts. of mannan. Too high a xylan content gives rise to marked difficulties in viscose filtration, and xylan and mannan may have an influence on the tensile strength and uses of the staple fiber (I). This was shown quantitatively by a correlation between total xylan and mannan content of the pulp and the dry strength of (I). On the other hand, the higher the actual glucose content of the pulp, the greater was the tensile strength of (I). This relation held true for com. samples of (I), the highest tensile strengths being reached when the fiber (on hydrolysis) gave 96-7% glucose.--From Chemical Abstracts.	1.00
41-52 PB L 52006	KLEINE, J. (I. G. Farbenindust. A. G., Wolfen, Germany). Present-day problems in the production and improvement of staple fiber. In German. New exptl. data are given comparing the properties of cotton (I) with those of staple fibers (II). In general, when ordinary washing and bleaching were not required, (III) could serve effectively as a substitute for (I). (II) have been produced that are relatively high in dry and wet strength (never, however, approaching that of (I)) and high elongation (which is much greater than that of (I)). The degradation of (II) during washing was manifested by a loss in tensile strength, η, and almost complete loss in strength on scouring. Swelling of (II) in aq. NaOH (or in H_2O) appears to be unrelated to degree of polymerization (d.p.), but there is a correlation between d.p. and alkali soly. The latter, however, is greatly influenced by the spinning conditions	1.00

used in producing (II). The variables that influence spinning are discussed at some length. In general the sv. d.p. of com. (II) ranges from 254 to 514. The effect of Cl and H_2O_2 bleaching on the tensile strength, cuprammonium η, and elongation are tabulated. A (II) of high d.p. may actually lose in quality far more rapidly than does one of low d.p.; the spinning technique must be considered in gaging (II) quality. Aq. acids rapidly caused degradation of (II), paralleling the oxidation effects. Here, too, a (II) of high d.p. often lost in η and wet and dry strength much more rapidly than did one of low d.p. Snail cellulase caused fairly rapid hydrolysis which, however, was not correlated with the initial d.p. of (II). The structure and surface area of (II) are of greater significance in oxidation and hydrolysis than is the initial η, d.p., or alkali-soly. None of the latter serves in gaging the applicability of (II). Differences in surface area could be detd. by means of microscopic, ultramicroscopic, and polarization-optical studies, as well as by the rate of diffusion of various dyes into the fiber. This diffusion rate is lower in (II) spun in a hot bath than in those spun in the cold. Diffusion of dyes is discussed at some length. In a fabric, the fiber surfaces of (II) can be protected by subsequent treatment with cellulose ethers (Tylose 4S) which, under favorable conditions, prolong the life of a fabric by 300-400% without diminishing its degree of swelling or absorptivity. Synthetic resins can also be used for this purpose but it is essential that they be used only in the finished fabric. The phys. properties of wool (III) as compared with those of (II) are discussed. (II) is stronger than (III), and when properly treated gives fabrics that compare favorably with (III) in warmth. Water-repelling properties may be imparted to (II) which compare well with those of (III), but the cost of the treatment (not described) is relatively high. Numerous graphs and tables are given.--From Chemical Abstracts.

53-62
PB L 52006 BAUER, E. (Vereinigte Glanstoff Fabriken, A.-G., Wuppertal-Elberfeld, Germany). Saving of chemicals in the viscose-spinning operation. In German. 1.00

The problems are summarized as follows: improvement in the quality of dissolving pulps and increased soly. of xanthates in H_2O or aq. NaOH; a more thorough study of the possible correlation of "haze" with quality of the pulp and the concn. of NaOH and CS_2 used; the development of a suitable recovery system for CS_2 from a gaseous mixt. contg. 0.1 g. CS_2/cu. m.; the creation of a market for Glauber salt or a method for its electrolysis; and a thorough exam. of the "alkacid method" for fixing H_2S in air as it leaves the spinning bath.--From Chemical Abstracts.

63-70
PB L 52006 ELSÄSSER, V. (I. P. Bemberg A.-G., Wuppertal-Oberbarmen, Germany). Problems and present status of cuprammonium-rayon production. In German. 1.00

Descriptive. No new data and no references are given.--From Chemical Abstracts.

71-78
PB L 52006 GRUBER, WOLFGANG (Dr. A Wacker Gesellschaft Elektrochem. Ind. G.m.b.H., Munich). Problems and present status of acetate staple-fiber production. In German. 1.00

Descriptive article contg. extensive comparative data on the phys. properties of cotton, viscose staple fiber, wool (I), and acetate staple fiber (II). (I) and (II) resemble each other very closely in many (but not all) properties. G. alludes to a series of testing methods for gaging the usefulness of textile fibers given by Böhringer (C. A. 26, 144g) and Schieber (C. A. 34, 3096^3) but no references are given. Beechwood pulp was used in the prepn. of (II).--From Chemical Abstracts.

79-94
PB L 52006 EISENHUT. (Reichsamt für Wirtschaftsausbau, Berlin) Comparative studies on celluloses of various kind. In German. 2.00

By dissolving native and regenerated fibers in NaOH essential differences between cellulose and staple fiber were found. This solubility can be influenced by decomposition (alkali ripening), attack of acids, and oxidation.

95-101
PB L 52006 RATH, H. Problems applying to the improvement of staple fiber. In German. 1.00

A descriptive article which deals with the effects of various artificial resins, oils, etc., on the degree of swelling, shrinkage, strength on washing, absorptivity, dry and wet strength, etc. Bar graphs are given.--From Chemical Abstracts.

103-118
PB L 52006 NÜSSLEIN, J. (I. G. Farbenindustrie A.-G., Frankfurt am Main, Germany). The significance and present status of research on wool fiber. In German. 2.00

A descriptive article contg. photomicrographs and electron micrographs. The effects of a number of degreasing agents under varying conditions on treated woolens are shown in a series of bar graphs.--From Chemical Abstracts.

119-125
PB L 52006 Discussion. In German. 1.00

The various problems arising during the discussion of the above papers and the critical remarks and the supplementary suggestions made are summarized.

PB L 52007. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. First meeting of the cooperative group on methods of organic chemistry, July 26, 1940. Jul 1940. 88 p. Price: Microfilm-$2.00 - Photostat-$6.00

The individual items are listed below and will be available as photostat copies only. The entire publication may be purchased in microfilm form for $2.00. Please include PB and page numbers when ordering individual items. In German.

Pages	Titles	Price
3-4 PB L 52007	List of participants. In German. The names of the representatives of various governmental agencies and industrial enterprises present at the meeting are listed.	$1.00
5 PB L 52007	Introductory remarks. In German. The remarks made deal chiefly with postwar planning and acknowledgements.	1.00

1-6 PB L 52007 — Instructions. In German. 1.00
These pages contain 9 administrative rules and instructions for the meetings of the cooperative groups to fecilitate research for the "four-year plan." These meetings were sponsored by the "Reichsamt für Wirtschaftsausbau Berlin" (Reich office for economic development).

9-19 PB L 52007 — GRUBER, WOLFGANG. Contribution of the Wacker Corporation toward the development of acetylene chemistry. In German. 1.00
The Wacker people were engaged in the manuf. of CaC_2 until the beginning of the first world war when their efforts were temporarily diverted toward the development of a process for the large-scale production of acetone. Consequent return to carbide production confronted them with the problem of producing the carbide in a dry, powdery form which was to be used in the building and fertilizer industries. The treating process which was developed, however, resulted in undesirable polymerization of the C_2H_2 given off. I. G. Farben eliminated this C_2H_2 polymerization menace with the construction of an efficient water cooling system. Another problem, viz., ridding the C_2H_2 of impurities such as the hydrates of P and NH_3, was solved by washing with HCl. The Wacker Corporation also formulated AcH from C_2H_2. Mercurous salts were used at temps. above 50° as catalysts. Not as well known is the formation of $(CO_2H)_2$ from C_2H_2; the conditions of this reaction are similar to those necessary for the production of AcH with the exception that instead of using pure C_2H_2, a 50-50 mixt. of C_2H_2 and NO is used. At this plant AcOBu was was produced by reacting BuOH, AcOH, and HNO_3. AcOMe and polyvinyl alc. were produced by reacting polyvinyl acetate with MeOH. Oxidation processes included the oxidation of AcH with O at -70° in the presence of Co to produce AcOH. Also, the Wacker chemists polymerized the C_2H_2 compds. to form a number of high polymers. These polymers were used to replace natural rubber and wood products.--From Chemical Abstracts.

21-35 PB L 52007 — NICODEMUS, O. A short historical development of acetylene chemistry and survey of synthetic methods of organic chemistry derived from acetylene. In German. 1.00
Although CaC_2 was produced in relatively large quantities at the turn of the last century, full realization of the industrial potentialities of C_2H_2 chemistry did not materialize until many years after the first world war. The last 20 years have witnessed feverish effort of the German chemist to put the lab. achievements to use in industry. The main objective of the chemist has been to find and employ efficient catalysts for the numerous reactions in order to produce the desired products more directly. Important here is the direct hydrogenation of C_2H_2 to produce alc., partial catalytic hydrogenation of C_2H_2 to produce C_2H_4, direct catalytic oxidation of AcH to produce the anhydride and many others. The German worker concentrated on a detailed study of C_2H_2 chemistry and allied fields mainly because the raw materials necessary were plentiful and his efforts were not without success.--From Chemical Abstracts.

37-68 PB L 52007 — REPPE, WALTER. Contributions toward the progress of acetylene chemistry by the Ludwigshafen works of the I.G. Farbenindustrie. In German. 3.00
During the period from 1930 to 1940 the I. G. Farben labs. were engaged in intensive investigation of C_2H_2 reactions involving the uses of high pressures. Among the studies carried to completion were the reactions involving vinylation. Vinyl ether production on a large scale in Germany was due entirely to the efforts of the Ludwigshafen labs. Other vinyl compds. produced and studied in detail were the polyoxystyrenes, vinyl sulfide polymers, and polyvinylamines. Other reactions studied but not completed as yet included the formation of butadiene from HCHO and C_2H_2. Aminobutenes were formed by reacting amines with C_2H_2. As a result of these studies the dangers of high-pressure reactions with C_2H_2 have been minimized and such reactions as C_2H_2 nitration, C_2H_2 sulfonation, oxyethylation, etc., are industrially commonplace. Drawings are shown of the processes used at Ludwigshafen. (See also PB 58617, which is a manuscript copy of this address, by Reppe.)--From Chemical Abstracts.

97-102 PB L 52007 — Discussion. In German. 1.00
The various problems arising during the discussion of the above papers and the critical remarks and supplementary suggestions made are summarized.

PB L 25633. I.G. FARBENINDUSTRIE. Miscellaneous chemical articles. (FIAT Reel C 8, (Frames 1-316) 16 mm microfilm) Nov 1945. 316 f. Price: Microfilm-$3.50-Enlargement-$32.00
This reel (FIAT Microfilm Reel C 8) contains miscellaneous chemical articles dealing with butadiene production by the Reppe process, Buna polymerization including some papers on continuous polymerization, Buna fabrication, acetylene chemistry, the "Oxo" process, T.N.T. production, emulsifying agents, plastics such as acrylamides, methacrylamides, crotonaldehyde condensates, tetrahydrofurane polymers, and polyurethanes, organic fluorine compounds, methane chlorination and glycerogen production. The individual articles are abstracted below. In German.

PB L 58644. JOINT INTELLIGENCE OBJECTIVES AGENCY. Miscellaneous chemical articles. (Enlargement Print Index of Microfilm Reel C 8, PB 25633) Nov 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This index gives the German and English titles of the articles contained in PB 25633 above, together with their PB numbers and the frame numbers of the reel on which each report appears.

PB L 58614. SCHAICH. Report on mixed coagulates of Buna S and activated carbon black. (I.G. Farbenindustrie) (Enlargement Print of Frames 1-15 of FIAT Microfilm Reel C 8, PB 25633) Sep 1938. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
A method was developed to coagulate Buna and carbon black from the latex. Such coagulates could be rolled more easily and in shorter time than "white" products. They were likewise superior in thermal degradation. Figures showing this are given in a number of tables. In German.

PB L 58615. BUB. Report on the conference of Nov 20-22, 1941. Exchange of experiences Schkopau - Hüls. (I.G. Farbenindustrie) (Enlargement Print of Frames 16-21 of FIAT Microfilm Reel C 8, PB 25633) Nov 1941. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The technicians of Hüls and of Schkopau compared their experiences in various steps of butadiene production and related processes. Comparative figures of the yields of porcesses and installations used in the two factories are given. Some technical innovations are described for the following processes: Aldol distillation; hydrogenation; hexanetriol production; furnaces for butadiene; butadiene distillation; cayalysts. In German.

PB L 58616. REPPE, W. The present state of the new butadiene process. (I.G. Farbenindustrie) (Enlargement Print of Frames 22-37 of FIAT Microfilm Reel C 8, PB 25633) Sept 1940. 18 p. Price: Microfilm-$1.00 - Photostat-$1.00
Reppe describes his process for production of butadiene from formaldehyde and acetylene, also described in several documents of later date below. The different stages are described in detail. Substances obtainable by these reactions are named and described, and listed in two flow sheets. In German.

PB L 58617. REPPE. Progress in acetylene chemistry at the Ludwigshafen plant of I.G. Farbenindustrie A.G. (I.G. Farbenindustrie) (Enlargement Print of Frames 38-81 of FIAT Microfilm Reel C 8, PB 25633) Jul 1940. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00
This is a lecture given by Reppe during a meeting on "Methods of organic chemistry" called by the Reichsamt für Wirtschaftsausbau (Reich office for economic development). He described in great detail the history and developments, up to that date, of the new acetylene reactions. The vinyl and ethynyl compounds obtained are listed, their further reactions and uses are described. (Some other documents of later date describe these same processes including further developments). In German.

PB L 58618. FISCHER. The calculation of field and the determination of the composition of polymers based on their components during polymerization. (I.G. Farbenindustrie) (Enlargement Print of Frames 82-86 of FIAT Microfilm Reel C 8, PB 25633) Oct 1938. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is an excerpt from a report made by Fischer on Apr 30, 1938, on continuous polymerization. Formulas are given which, filled in with the data on the components, permit the calculation of the results of polymerization. Examples are given. A graph is added. In German.

PB L 58619. MERKEL and KRZIKALLA. Continuous production of 1,4-butanediol dichlorocarbonic ester. (I.G. Farbenindustrie) (Enlargement Print of Frames 87-92 of FIAT Microfilm Reel C 8, PB 25633) Mar 1944. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This compound is produced from butanediol and phosgene. An apparatus for continuous reaction, working with the counter current principle, is described and shown in a drawing. In German.

PB L 58620. REPPE. Conference with Ruhrchemie in Holten on Feb 15, 1940. (I.G. Farbenindustrie) (Enlargement Print of Frames 93-97 of FIAT Microfilm Reel C 8, PB 25633) Feb 1940. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Leading chemists of I.G. met leading chemists of Ruhrchemie in order to exchange experiences. Subjects of discussion were the production of olefins at medium pressure with cobalt and iron catalyst and by cracking of paraffins, and the "Oxo" reactions for transformation of olefins into alcohols (by reaction with carbon monoxide and hydrogen). Details are not given in this document. Reference is made to appendices. These are contained in the next document PB 58621). In German.

PB L 58621. ROELEN and others. The synthesis of aldehydes and other compounds containing oxygen, starting with carbon monoxide and hydrogen. (I.G. Farbenindustrie) (Enlargement Print of Frames 98-109 of FIAT Microfilm Reel C 8, PB 25633) Feb 1940. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document consists of appendices to the report on the meeting of I.G. chemists with Ruhrchemie chemists (see PB 58620). The first section is a detailed description of the Ruhrchemie processes using the addition of carbon monoxide and hydrogen on olefinic double bonds for the production of aldehydes, etc. The reproduction of this section is poor. A flow sheet entitled "Production of fatty alcohols" illustrates the processes described. A table gives the percentages of olefinic and paraffinic components of lower and higher molecular weight in the reaction products. This is followed by an internal I.G. commentary. It claims that the Ruhrchemie people do not fully understand their processes, particularly have not recognised that the carbonyl compounds they consider as undesirable by-products, in fact act as catalysts in the process. Theoretical explanations of the processes with formulae are given, and modifications of the Ruhrchemie procedures are suggested. In German.

PB L 58622. I.G. FARBENINDUSTRIE A.G. Summary of experimental research at the chemical department in Allendorf. (Enlargement Print of Frames 110-113 of FIAT Microfilm Reel C 8, PB 25633) Oct 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
The research concerned improvements in the production of trinitrotoluene, and possible substitutes for it. It was found that a mist of mononitrotoluene may be nitrated in a single step to trinitrotoluene, by means of mixed acid. Several new methods of purification were tested and found promising but were not fully developed. It was found that up to 30% trinitroxylene could be added to TNT. Mixtures of trinitroxylene with trinitro naphthalene, and with other substances, were under investigation. The production of trinitrobenzene by nitration of a mist of mononitrobenzene was found promising. Progress was made in the production of nitrooleum (details are not disclosed here). In German.

PB L 58623. NEMANN. Method for the production of Buna at the B 3 factory, Ludwigshafen. (I.G. Farbenindustrie) (Enlargement Print of Frames 114-119 of FIAT Microfilm Reel C 8, PB 25633) Aug 1942. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This item describes in a general way the Buna production based on the Reppe process. The description was to accompany the application for a plant license. The processes are described more completely in a number of other documents. In German.

PB L 58625. REUTER, H. A new method for producing "Mepasine" sulfamidomethane carboxylic and sulfonic acids. (I.G. Farbenindustrie) (Enlargement Print of Frames 126-132 of FIAT Microfilm Reel C 8, PB 25633) Feb 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes a process for sulfamidomethane sulfonic acids using condensation of sulfamides with formaldehyde and sulfurous acid; a process for sulamidomethylnitriles from sulfamidomethane sulfonic acids and potassium cyanide, another process for sulfamidomethylnitriles using condensation of sulfamides with formaldehyde and hydrocyanic acid, and the hydrolysis of sulfamidomethylnitriles to

sulfamidoacetic acids, sulfanidoacetanides, and sulfamidoacetic acid esters. In German.

PB L 58626. CORELL. 26th KUKO meeting in Frankfort/M. on Feb 12, 1943. Production and utilization of acrylamides. (I.G. Farbenindustrie) (Enlargement Print of Frames 133-139 of FIAT Microfilm Reel C 8, PB 25633) Jan 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
A starting material for the acrylamides is B-chloropropionyl chloride. This substance is prepared from acrylonitrile by addition of hydrogen chloride, hydrolysis, and treatment with thionylchloride. A number of other methods were investigated but found less satisfactory. Also described are: methacrylamide from acetonecyanhydrine; the reaction of B-chloropropionylchloride with diphenylamine leads to N-acrylic and diphenylamide, with di-isobutylamine to N-acrylic and di-isobutylamide, and with oxethylaminde. Some technical details for treatment of the emulsions are given. Plastics of good heat resistance are obtained. In German.

PB L 58628. SCHERER. Fluorine in organic chemistry. (I.G. Farbenindustrie) (Enlargement Print of Frames 147-164 of FIAT Microfilm Reel C 8, PB 25633) Jun 1942. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a comprehensive review of the role of fluorine in the entire field of organic chemistry, based on known technical processes, published patents and literature. Technique and theoretical aspects of fluorination are dealt with; organic fluorine compounds in the field of dyes, refrigeration liquids, etc., and their utilization are described. Patent problems are mentioned. Further developments to be expected in the field are pointed out. No new disclosures are to be found in this report. In German.

PB L 58630. LOGEMANN. Rapid polymerization with "Mepasin" sulfinate. (I.G. Farbenindustrie) (Enlargement Print of Frames 172-185 of FIAT Microfilm Reel C 8, PB 25633) Jun 1944. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
Buna S polymerization may be activated with "Mepasin" sulfinate in sulfuric acid solution so as to produce, at 40°C a 60% yield within one hour, with normal test results. At 10°C the polymerisation takes 10-15 hours and produces good test results. The polymerization may be slowed down by various means if desired. Aromatic phenols, amines and other polymerization poisons under other conditions, may be added without harm. A small amount of atmospheric oxygen is essential for the effect of Mepasin sulfinate. Tri and tetrathionic acid, at a nearly neutral P_H, also improved the polymerization. Results are arranged in 14 tables. In German.

PB L 58631. MEIS and others. File notices concerning "Diproxid". (I.G. Farbenindustrie) (Enlargement Print of Frames 186-194 of FIAT Microfilm Reel C 8, PB 25633) Jan 1943-Mar 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This folder contains five file notices with suggestions for the purification of "diproxide", and results obtained by various methods; also a method for testing the concentration of a "diproxid" - styrene solution. In German.

PB L 58632. PETRI. Preliminary report on the reaction of the furnace gases in methane chlorination with oxygen over catalysts (Deacon methane chlorination). (I.G. Farbenindustrie) (Enlargement Print of Frames 195-201 of FIAT Microfilm Reel C 8, PB 25633) Dec 1942. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The purpose of the experiments was to find a method utilizing the hydrogen chloride produced in the Deacon reaction, i.e., a combined Deacon and catalytic chlorination process. The results, given in detail, indicated that such a process was possible with copper chlorides as catalysts. However, more research was necessary. In German.

PB L 58633. I.G. FARBENINDUSTRIE A.G. Method for producing nitration products. (Enlargement Print of Frames 202-204 of FIAT Microfilm Reel C 8, PB 25633) May 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a draft of a patent application. The organic substances to be nitrated are finely dispersed in a gas or converted into a mist. The mixture of gas and mist is then reacted with the nitrating acid. The organic substances may, preliminary to dispersion, be dissolved in an indifferent solvent. See also PB 58622. In German.

PB L 58634. VOGT. New emulsifiers for lubricants and boring oils. (I.G. Farbenindustrie) (Enlargement Print of Frames 205-209 of FIAT Microfilm Reel C 8, PB 25633) n.d. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report deals with "Mesamid" products. It describes the modification of the properties of "Mesamido acetic acid H" by partial or complete hydrolysis. Then a complete description of the emulsifier for boring oils, "Ho" 1/136" is given. Its composition, properties, treatment and effects are stated. Its possible use in mixtures with other substances is discussed, also its metal salts. See also PB 58638. In German.

PB L 58635. MÜHLHAUSEN. File note. Continuous polymerization in the flow pipe. (I.G. Farbenindustrie) (Enlargement Print of Frames 210-213 of FIAT Microfilm Reel C 8, PB 25633) Aug 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a theoretical consideration and calculation of the optimal speed of flow in relation to the size of the pipe, on the basis of some experiments. Suggestions for technical improvements are made. Results of the experiments are tabulated. In German.

PB L 58636. I.G. FARBENINDUSTRIE A.G. Polyamide discussion of Oct 30, 1942: "Hostamides"; Polyurethanes obtained by the Hochst process. (Enlargement Print of Frames 214-227 of FIAT Microfilm Reel C 8, PB 25633) Jan 1943. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
The Hochst process consists in the reaction of dichlorocarboxylic acid esters of diols with diamines. The process is described and compared with other processes. A number of "hostamid" types are described with regard to their utilization prospects. They include textile products, leather substitutes, and molded sheets. Advantages of this process over the diisocyanate process are listed. A table lists 50 "Hostamid" types with their parent substances, properties and possible uses. In German.

PB L 58637. -OLZ. Continuous polymerization of "Buna SW 10". (I.G. Farbenindustrie) (Enlargement print of Frames 228-231 of FIAT Microfilm Reel C 8, PB 25633) Mar 1944. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on experiments. Continuous polymerization was found feasable. Conditions for it are described. The quality of the product as yet was inferior to that from the discontinuous process. In German.

PB L 58638. REUTER and BECKER. New research on the production of "Emulgator E" ("Ho" 1/136") including its preliminary products. (I.G. Farbenindustrie)

Miscellaneous Chemicals (contd)

(Enlargement Print of Frames 232-238 of FIAT Microfilm Reel C 8, PB 25633) Feb 1943. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a detailed description and discussion of the process involved. The effects of modifications of the composition are described. Uses are mentioned. See also PB 58634. In German.

PB L 58639. STEIN and HAAG. Hydrogenation of crotonaldehyde condensation products. (I.G. Farbenindustrie) (Enlargement Print of Frames 239-246 of FIAT Microfilm Reel C 8, PB 25633) Jul 1943. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
Hydrogenation of a 15-20% solution of octatrienal in butanol produced, approximately, 25% octyl fraction and 30% residue of high boiling point. Hydrogenation of the crude condensate of crotonaldehyde, containing crotonaldehyde and piperdineacetate, produced about 42% octyl fraction and 10% residue of high boiling point. The latter octyl fraction contains some o- or p-hexahydrotolyl alcohol. In German.

PB L 58640. FUCHS, OTTO. Nickel-zinc catalysts for the production of glyrerogen. (I.G. Farbenindustrie) (Enlargement Print of Frames 247-271 of FIAT Microfilm Reel C 8, PB 25633) Sept 1942. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00
A nickel catalyst on pumice was in use for the glycerogen process, pressure hydrogenation of invert sugar. A new catalyst, nickel on zinc oxide, with an admixture of chalk to the nickel for better filterability, was found superior in most respects. Results of very detailed tests and comparisons with the old catalyst are given here. In German.

PB L 58641. I.G. FARBENINDUSTRIE A.G. By-products of the butynediol hydrogenation in the Reppe process. (Enlargement Print of Frames 272-305 of FIAT Microfilm Reel C 8, PB 25633) Nov 1944. 34 p. Price: Microfilm-$1.00 - Photostat-$3.00
The formation and composition of the by-products is described in detail. The main by-products are: (1) Butanol. It develops chiefly from the intermediary product, butenediol; some from hydroxybutyraldehyde. (2) α - Hydroxybutyraldehyde. It is formed by rearrangement of butenediol. Its hydrogenation is difficult. (3) A residue of high boiling point, formed mainly from butenediol and hydroxybutyraldehyde. Other by-products are acetals in the forerun, also C_5 aldehydes; carbonyl compounds; and transformation diol. Numerous tables give results of distillation. In German.

PB L 58643. MEERWEIN, H. Polymerization of alkylene oxides. (I.G. Farbenindustrie) (Enlargement Print of Frames 310-316 of FIAT Microfilm Reel C 8, PB 25633) Sept 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a preliminary report on research undertaken for the German Army under the number SS 4891-0661. It mainly relates previous research on the polymerization of tetrahydrofuran a substance easily obtainable by the Reppe process. Its polymerization is theoretically explained. Suitable catalysts are listed. As an example, polymerization with acetylchloride ironchloride is described in detail. The length of the chains formed may be controlled and varied as desired. By copolymerisation of tetrahydrafuran with ethylene oxide, glycols of the approximate formula $HOCH_2CH_2(O(CH_2)_4)_nOCH_2CH_2OH$ are obtained, which are of interest as lubricants. Copolymerization of tetrahydrafuran with epichlorohydrine was to be investigated. In German.

PB L 74509. I. G. FARBENINDUSTRIE A.G., LEVERKUSEN. Organic intermediates of the I. G. Farbenindustrie A.G. Second ed. 1936. (FIAT Microfilm Reel L 83, Frames 1-986) 1936. 986 f. Price: Microfilm-$6.00 - Enlargement print-$99.00
This item was already abstracted in the Bibliography (vol.2, p. 628) under PB 27683 (enlargement prints of FIAT microfilm reel C 21, PB 4681). In German.

PB L 74510. I. G. FARBENINDUSTRIE A.G., LEVERKUSEN. Continuation of the register of organic intermediates of I. G., and various progress reports. (FIAT Microfilm Reel L 84, Frames 987-2079) 1936-1937. 1192 f. Price: Microfilm-$6.00 - Enlargement print-$119.50
Frames 987-1515 of this film are the continuation of the second edition, 1936, of the above register (see PB 74509, above). This part was already abstracted in the Bibliography (vol. 2, p. 628) under PB 27683. Frames 1516-2079 contain progress reports of the various research laboratories during 1936 and 1937. They deal with textile aids, dyes, plastics, and chemicals used in the rubber industry. In German.

PB L 17683. RÖHM UND HAAS G.M.B.H., PERMUTIT A.G., and I.G. FARBENINDUSTRIE A.G. Sales prospect uses and research papers pertaining to synthetic resins, etc., used in textile finishing, leather finishing agents, water softening and transparent plastic sheets. (FIAT Reel C 101 (Frames 1-540) 16 mm microfilm) 1938-1944. 540 f. Price: Microfilm-$6.00 - Enlargement print-$54.00
This reel (FIAT Microfilm Reel C 101) contains sales circulars, prospectuses and research papers pertaining to textile finishing agents, leather and synthetic leather finishing agents, acrylate polymers for molding, injection molding and casting, polyvinyl chloride polymers, ion exchange resins, water softening methods using resins, diebetic testing and properties of polyvinyl chloride resins and testing of raw materials for and finished sheets of acrylic polymers ("Plexiglas"). The individual documents are abstracted below.

PB L 81057. JOINT INTELLIGENCE OBJECTIVES AGENCY. Sales prospect uses and research papers pertaining to synthetic resins, etc., used in textile finishing leather finishing agents, water softening and transparent plastic sheet. (Enlargement Print Index of FIAT Microfilm Reel C 101, PB 17683. Apr 1946. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This index gives the German and English titles of the articles contained in PB 17683 above, together with these PB numbers and the frame numbers on which each report appears on the reel.

PB L 81082. RÖHM UND HAAS, G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. Modern sizing methods for rayon, cellulose staple, mixed threads, wool, cotton, linen, and "Flockenbast". (Enlargement Print of Frames 1-36 of FIAT Microfilm Reel C 101, PB 17683) Nov 1940. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is advertising matter describing the use of the various brands of "Silkovan" for the purposes listed in the title. The descriptions are illustrated with a number of photographs. The chemical composition of the sizes is not disclosed here. In German.

PB L 81081. RÖHM UND HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. "Paraffion" double concentrated for water proofing, finishing, and artificial leather production. (Enlargement Print of Frames 37-43 of FIAT Microfilm Reel C 101, PB 17683) n.d. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
Directions for the use of this substance for the purposes named are given without, however, disclosing its composition. It is mostly used together with aluminum formate. In German.

PB L 81080. RÖHM UND HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. Preparation of starch finishes, fast to washing, by means of "Eropal". (Enlargement Print of Frames 44-53 of FIAT Microfilm Reel C 101, PB 17683) n.d. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This prospectus discloses that "Eropal A" and "Eropal SZ" are artificial resins but does not give their exact nature. Their use with potato starch and other starches, for various purposes, is described. In German.

PB L 81079. RÖHM & HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. "Olgon" high quality finishing and sizing agent. (Enlargement Print of Frames 54-57 of FIAT Microfilm Reel C 101, PB 17683) n.d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Olgon" is an organic sulfonate and was to be used as a substitute for fats and oils. This prospectus describes its use for various purposes and gives mixing formulae. In German.

PB L 81078. RÖHM & HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. "Immofil" for sizing textiles. (Enlargement Print of Frames 58-65 of FIAT Microfilm Reel C 101, PB 17683) 1939. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This prospectus does not disclose the composition of "Immofil" but describes its use for various purposes, alone (with sodium acetate) and together with other sizing agents. In German.

PB L 81077. RÖHM & HAAS G.M.B.H., DARMSTADT. "Plexileim" for finishing, printing and sizing. (Enlargement Print of Frames 66-77 of FIAT Microfilm Reel C 101, PB 17683) n.d. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
The prospectus describes the various uses, in various mixtures, of this synthetic sizing material the nature of which is not disclosed. In German.

PB L 81076. RÖHM & HAAS G.M.B.H., DARMSTADT. "Plexigum" and "Plextol" synthetic substances for the textile and artificial leather industries. (Enlargement Print of Frames 78-133 of FIAT Microfilm Reel C 101, PB 17683) Jan 1944. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00
This pamplet describes in detail the properties of the six types of "Plextol" made from them, and their uses. The uses include sizing of various textiles for various purposes, production of artificial leathers, of water-repellent cloth lining, gold and pigment printing, production of carpets and hosiery. In German.

PB L 81075. EINLEITUNG, A. "Acrisin" for improving the usability of products of the textile industry. (Enlargement Print of Frames 134-147 of FIAT Microfilm Reel C 101, PB 17683) n.d. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This prospectus describes the advantages of the various types of "Acrisin" . They are textile aids obtained by condensation or polycondensation; their composition is not disclosed. They are used for sizing textiles and paper. Directions for their use are given. In German.

PB L 81074. RÖHM & HAAS A.G. CHEMISCHE FABRIK, DARMSTADT. "Degomma DL", directions for use. (Enlargement Print of Frames 148-163 of FIAT Microfilm Reel C 101, PB 17683) n.d. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
"Degomma DL" is a desizing agent obtained from pancreas. Its essential ingredient is a ferment decomposing starch. Its exact composition is not disclosed here. The pamphlet describes its various uses, and also the use of "Degomma DLN", "DG", "HF", "DE", "DH", "DP" for special purposes. In German.

PB L 81073. RÖHM & HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. "Plexigum" molding materials. (Enlargement Print of Frames 164-165 of FIAT Microfilm Reel C 101, PB 17683) n.d. 2 p. Price: Microfilm -$1.00 - Photostat-$1.00
This item contains directions for working with "Plexigum" materials, which are synthetic resins based on acrylic acid. Their exact nature is not disclosed. In German.

PB L 81072. RÖHM & HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. "Plexigum" materials for injection molding. (Enlargement Print of Frames 166-167 of FIAT Microfilm Reel C 101, PB 17683) n.d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This item consists of directions for injection molding of "Plexigum" materials. In German.

PB L 81071. RÖHM & HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. Properties of injection molded and compression molded parts made of "Plexigum." (Enlargement Print of Frames 168-169 of FIAT Microfilm Reel C 101, PB 17683) n. d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a list of physical and chemical properties of "Plexigum" products. In German.

PB L 81070. WÜRSTLEIN, F. Dielectric measurements on plasticized polyvinylchloride. (Enlargement print of Frames 170-182 of FIAT Microfilm Reel C 101, PB 17683) 1942-1943. 13 p. Price: Microfilm-$1.25 - Photostat-$3.00
This item contains two articles by F. Würstlin, both on dielectric measurements on polyvinyl chloride. The first one is a reprint from "Zeitschrift für Elektrochemine," vol. 48, p. 311-314 (1942). The second one is a reprint from the "Kolloid-Zeitschrift", vol. 105 p. 9-16 (1943). In German.

PB L 81070. WÜRSTLIN, F. Electrical conductivity of plasticized polyvinyl chloride. (Enlargement Print of Frames 183-195 of FIAT Microfilm Reel C 101, PB 17683) n.d. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from "Kunststofftechnik", vol. XI, p. 269-272 (1941). In German.

PB L 81071. GRIESSBACH, R. The use of resin exchangers for water purification purposes. (Enlargement Print of Frames 196-199 of FIAT Microfilm Reel C 101, PB 17683) 1938. 4 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a reprint from the periodical "Mitteilungen der Vereinigung der Grosskesselbesitzer E.V"., 1938. In German.

PB L 81072. WESLEY, W. Modern processing of feed water by the use of "Wofatites". (Enlargement Print of Frames 200-205 of FIAT Microdilm Reel C 101, PB 17683) Dec 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is a reprint from "Chemikerzeitung", vol. 67 (1943), p. 338-343. In German.

PB L 81069. PERMUTIT AKTIENGESELLSCHAFT, BERLIN. The "Wirbos" method. (Enlargement Print of Frames 206-207 of FIAT Microfilm Reel C 101, PB 17683) 1944. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a leaflet describing the advantages of carbonate removal from water by the new "Wirbos" method. Its name is derived from "Wirbelstrom Ohne Schlamm" (whirlpool without sludge). In German.

PB L 81068. SCHMITT, E. Technical experiences with processing boiler feed water by the Wirbos-Permutit method. (Enlargement Print of Frames 208-213 of FIAT Microfilm Reel C 101, PB 17683) 1944. 7 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from "Zeitschrift des Vereins deutscher Ingeniure" vol. 88, pp. 393-400 (1944). In German.

PB L 81067. SCHUBERT, S. Technical results with a hydrogen - "Permutit" - installation for water

softening. (Enlargement Print of Frames 214-216 of FIAT Microfilm Reel C 101, PB 17683) 1938. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from "Archiv für Wärmewirtschaft und Dampfkesselwesen" vol. 29, pp. 129-131 (1938). In German.

PB L 81066. PERMUTIT AKTIENGESELLSCHAFT, BERLIN. The hydrogen - "Permutit" softening method. (Enlargement Print of Frames 217-220 of FIAT Microfilm Reel C 101, PB 17683) n.d. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a propectus pointing out the advantages of the method. It is incomplete (3 pages missing). In German.

PB L 81065. PERMUTIT A.G. The "Permutit" handbook. (Enlargement Print of Frames 221-348 of FIAT Microfilm Reel C 101, PB 17683) 1943. 68 p. Price: Microfilm-$2.00 - Photostat-$4.00
This item contains: (1) a detailed description of the processing of water, including methods of elimination of all impurities of practical importance, partial and total softening, and prevention of corrosion; (2) Methods of analysis of water; (3) Chemical and technical tables and graphs; (4) a complete index. In German.

PB L 81873. GRETH, A. Reactive phenol resins and derivatives. (Enlargement Print of Frames 349-368 of FIAT Microfilm Reel C 101, PB 17683) Oct 1941. 20 p. Price: Microfilm-$1.25 - Photostat-$3.00
This is a reprint from the periodical "Kunststoffe", vol. 31, pp 345-351 (1941). In German.

PB L 81064. HULTZSCH, K. Formation and structure of hardened phenol resins. (Enlargement Print of Frames 369-390 of FIAT Microfilm Reel C 101, PB 17683) Mar 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from the periodical "Kunststoffe", vol 32, pp 66-76 (1942). In German.

PB L 81063. GRETH, A. Synthetic resins as raw materials for lacquers. (Enlargement Print of Frames 391-422 of FIAT Microfilm Reel C 101, PB 17683) n.d. 14 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from the periodical "Kunststoffe". The volume is not indicated. In German.

PB L 81874. GRIESBSCH, R. Production and use of recent exchange adsorbents, particularly those based on resins. (Enlargement Print of Frames 423-474 of FIAT Microfilm Reel C 101, PB 17683) 1939. 54 p. Price: Microfilm-$2.25 - Photostat-$7.00
This report, supplement 31 to the Zeitschrift des Vereins deutscher Chemiker, describes the history of the development of exchange adsorbents, methods for obtaining adsorbents with specific properties, and methods for testing. An excerpt may be found in Angewandte Chemie, vol. 52 (1939). In German.

PB L 81062. KAUTTER, C.T. Methods of producting and processing of organic and multi-layer glasses from acryl compounds. (Enlargement Print of Frames 475-517 of FIAT Microfilm Reel C 101, PB 17683) n.d. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
The history of the development of the acrylic acid ester polymerization and of the use of its products for organic "glasses" is given and illustrated with numerous pictures. The various methods of molding are described and illustrated. "Liquid molding" is declared the most promising method once existing difficulties will have been overcome. The article is in German, but a complete translation in English is also included.

PB L 81061. RÖHM UND HAAS G.M.B.H., CHEMISCHE FABRIK, DARMSTADT. Testing of "Plexiglas". (Enlargement Print of Frames 518-521 of FIAT Microfilm Reel C 101, PB 17683) n.d. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This item contains brief directions for testing "Plexiglas" as to weather resistance, resistance to ethyl acetate, bubbe formation, thickness, shrinkage, loss of weight, and viscosity. For tests of other properties, literature references are given. In German and English.

PB L 81060. RÖHM & HAAS G.M.B.H. Testing requirements for methacrylic acid methyl ester. (Enlargement Print of Frames 522-525 of FIAT Microfilm Reel C 101, PB 17683) n.d. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
The properties are listed which methacrylic acid ester must have to be usable in the production of "Plexiglas", and methods for their determination are shortly indicated. In German and English.

PB L 81059. RÖHM UND HAAS G.M.B.H. Optical testing of "Plexiglas". (Enlargement Print of Frames 526-534 of FIAT Microfilm Reel C 101, PB 17683) n.d. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Testing methods for "Plexiglas" sheets to be used in airplanes are described. They are divided in (1) Target telescope methods: A simple method and an improved one using a collimator are described. (2) Projection methods: A beam of light, or better the image of a lattice, is projected through the sheet. (3) Reflection method. This method is preferred. A screen of points is projected at an angle of less than 250 on to a sheet of Plexiglass. Reflection occurs from the front and back surfaces of the plane. If both sides are parallel, the images of the points coincide. Seven illustrations are given. In German and English.

PB L 81056. RÖHM UND HAAS G.M.B.H. Testing of methyl methacrylate as to its polymerizability. (Enlargement Print of Frames 535-540 of FIAT Microfilm Reel C 101, PB 17683) n.d. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
The test uses the dilatometer of G.V. Schulz. This device permits measurement of the volume diminuation accompanying polymerization. Its use is described by means of a drawing. A graph shows values obtained from suitable and from impure, non-suitable ester. In German and English.

PB L 74403. ALEXANDER WACKER G.M.B.H., MÜNCHEN. Laboratory reports. (FIAT Microfilm Reel G 147, Frames 8451-9400) 1939-1940. 950 f. Price: Microfilm-$6.00 - Enlargement print-$95.00
This FIAT microfilm reel consists of items in the field of chemistry. They comprise monthly activity reports from various sections of the laboratory of Burghausen. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. In German. The greater part of the reel is poorly legible.

Frames	Title	Price
8451-8452 PB L 74403	This is the conclusion of a report starting on reel G 146 (PB 74322). In German.	$1.50

Miscellaneous Chemicals (contd)

8453-8456 PB L 74403 — Electrooxidation of granulated dextrose to form calcium gluconate. 1939. In German. 1.50

8457-8458 PB L 74403 — Table of reports on the activities of the individual sections of the laboratory, covering one month. 1939. In German. 1.50

8459-8471 PB L 74403 — Report on octaacetyl sucrose ("Oktosan") and on cleavage of butyric acid and acetic acid to form acetone, 2-pentanone, and 4-heptanone. 1939. In German. 1.50

8472-8473 PB L 74403 — Table of reports on the monthly activities of the individual sections of the laboratory in Burghausen. 1939. In German. 1.50

8474-8478 PB L 74403 — Purification of acetic anhydride and preparation of triethyl phosphate. By Platzer. 1939. In German. 1.50

8479-8483 PB L 74403 — Research on acetohydroxybutadiene. By Barth, 1939. In German. 1.50

8484-8489 PB L 74403 — Production of "Piloform". 1939. In German. 1.50

8490-8492 PB L 74403 — Report on various analyses in the field of organic chemistry. 1939. In German. 1.50

8493-8495 PB L 74403 — Obtaining butylene by cleavage of normal butyl secondary butyl ether. Research on butylene chlorohydrin. 1939. In German. 1.50

8496-8498 PB L 74403 — Experiments for the preparation of glycerol from trioxymethylene, and of salicylonitrile. 1939. In German. 1.50

8499-8501 PB L 74403 — Preparation of triacetate and of molded masses from acetyl cellulose. Preparation and subsequent treatment of acetate films. Experiments for the preparation of the water-soluble cellulose. 1939. In German. 1.50

8502-8505 PB L 74403 — Experiments on "Tripen". 1939. In German. 1.50

8506-8510 PB L 74403 — Purification of acetic anhydride. Preparation of triethyl phosphate. By Platzer, 1939. In German. 1.50

8511-8516 PB L 74403 — Determination of "Calgon" and soap in aqueous solution. By Machener, 1939. In German. 1.50

8517-8519 PB L 74403 — Condensation of caproaldehyde with methylisobutylketone to form unsaturated ketones of higher molecular weight. 1939. In German. 1.50

8520-8521 PB L 74403 — Hydrogenation of pentanone and heptanone. 1939. In German. 1.50

8522-8525 PB L 74403 — Alkaline condensation of isophorone to oils with high boiling points. By Machener, 1939. In German. 1.50

8526-8529 PB L 74403 — Table of laboratory reports 1939. In German. 1.50

8530-8539 PB L 74403 — Reports dealing with (1) "Zolan" forerun; (2) butyl alcohol; (3) acetic acid; (4) ethyl alcohol; and (5) crotonaldehyde. 1939. In German. 1.50

8540-8544 PB L 74403 — Research work on (1) salicylonitrile, (2) diglycolic acid; (3) ethyl ester of diglycolic acid; (4) esters of 7-C-glycol; (5) polymerization of hexene; and (6) determination of formaldehyde. 1939. In German. 1.50

8545-8549 PB L 74403 — Work on "Tripen". By Schaeffer, 1939. In German. 1.50

8550-8554 PB L 74403 — Work on "Tripen". By Tomaschek, 1939. In German. 1.50

8555-8568 PB L 74403 — Quantitative calorimetric determination of vanadium and titanium in graphite electrodes. 1939. In German. 1.50

8569-8572 PB L 74403 — Preparation of isoacetylphenol. 1939. In German. 1.50

8573-8578 PB L 74403 — Preparation of non-volatile ester-like plasticizers from 1,3-butanediol, phenol derivatives and chloroacetic acid. 1939. In German. 1.50

8579-8585 PB L 74403 — Preparation of derivatives of sugar dicarbonic acid. Preparation of hexamethylenediamine and tetramethylenediamine. 1939. In German. 1.50

8586-8589 PB L 74403 — Table of laboratory reports. 1939. In German. 1.50

8590-8593 PB L 74403 — Drying of "A2" for the production of alcohol. 1939. In German. 1.50

8594-8597 PB L 74403 — Preparation of triacetate. Acetylation of straw cellulose. 1939. In German. 1.50

8598-8605 PB L 74403 — Research on "Tripen". By Schaeffer and Tomaschek. 1939. In German. 1.50

8606-8610 PB L 74403 — Late distillation of "Acetäthal". 1939. In German. 1.50

8611-8613 PB L 74403 — Experiments regarding polymerization of 2-ethyl-1-hexene. 1939. In German. 1.50

8614-8617 PB L 74403 — Preparation of esters of aliphatic monocarboxylic acids which have high boiling points with diethylene glycol, by means of triethylene glycol, and butanediol. 1939. In German. 1.50

8618-8622 PB L 74403 — Analysis of lignin. 1939. In German. 1.50

8623-8625 PB L 74403 — Table of laboratory reports. 1939. In German. 1.50

8626-8629 PB L 74403 — Various chemical analyses. 1939. In German. 1.50

8630-8636 PB L 74403 — Brief reports on research regarding (1) "Zolan" forerun; (2) butyl alcohol; (3) drying of hydrogen for preparing alcohol. By Kenler, 1939. In German. 1.50

8637-8639 PB L 74403 — Reports on "Glykol" and normal butyl secondary butyl ether. By Nickl, 1939. In German. 1.50

8640-8644 PB L 74403 — Reports dealing with research on (1) diglycolic acid; (2) diglycolic esters; (3) methyl alcohol from 7-C-aldol forerun; (4) residues from 7-C-ester; (5) recovered hexyl alcohol; and (6) methyl ester chloroacetic acid. 1939. In German. 1.50

8645-8654 PB L 74403 — On "Tripen". By Linde and Schaeffer, 1939. In German. 1.50

8655-8660 PB L 74403 — Preparation of "Diacetin". 1939. In German. 1.50

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Miscellaneous Chemicals (contd)

8661-8665 PB L 74403 — Microanalytical determination of lead. By Machener, 1939. In German. 1.50

8666-8683 PB L 74403 — Ester-like plasticizers from phenyl hydroxy acetic acid and its chlorination products. 1939. In German. 2.00

8684-8692 PB L 74403 — Dicarboxylic esters with high boiling points as plasticizers. By Machener, 1939. In German. 1.50

8693-8700 PB L 74403 — Condensation of butyraldehyde by means of Ca Cl2. By Machener, 1939. In German. 1.50

8701-8707 PB L 74403 — "Octosan" from "Prager Zucker". By Machener, 1939. In German. 1.50

8708-8714 PB L 74403 — Examination of the still residues from distillation of acetic acid. By Kemler, 1939. In German. 1.50

8715-8719 PB L 74403 — Research on diglycolic acid and diglycolic esters. 1939. In German. 1.50

8720-8725 PB L 74403 — Bleaching experiments with lignocellulose acetate. Influence of bleaching on the properties of acetyl cellulose. Resin content of lignocellulose and linters. Boiling of triacetate with tap water. Preparation of acetyl cellulose with preservation of the fibrous texture. Increasing the "film-carry-off-speed" in the production of films. 1939. In German. 1.50

8726-8733 PB L 74403 — On "Tripen". By Linde and Schaeffer, 1939. In German. 1.50

8734-8745 PB L 74403 — Crystallized "OAS" from "Prager Zucker". By Machener, 1939. In German. 1.50

8746-8751 PB L 74403 — Chlorotoluene. By Machener, 1939. In German. 1.50

8752-8757 PB L 74403 — Ester-like plasticizers from monovalent acids and higher alcohols. By Machener, 1939. In German. 1.50

8758-8759 PB L 74403 — Missing due to faulty numbering.

8760 PB L 74403 — Table of laboratory reports. 1939. In German. 1.50

8761-8765 PB L 74403 — Reports on diglycolic acid, glycol esters of diglycolic acid, fireproofing agents and on 7-C-aldol. 1939. In German. 1.50

8766-8767 PB L 74403 — Table of laboratory reports. 1939. In German. 1.50

8768-8773 PB L 74403 — Experiments with "Lutterwasser" crotonaldehyde. Oxidation of aldol. Experiments with crotonaldehyde. By Nickl and Kemler, 1939. In German. 1.50

8774-8778 PB L 74403 — Research on "Tripen". Stabilization experiments on "Tripen". By Schaeffer and Linde, 1939. In German. 1.50

8779-8813 PB L 74403 — Experiments in the field of "Viana." By Beer, 1940. In German. 3.50

8814-8817 PB L 74403 — Experiments for preparing "Vinnapas B" without the use of a solvent. By Beer, 1940. In German. 1.50

8818-8819 PB L 74403 — Experiments for preparing "Vinnapas UW" in two stages. By Beer, 1939. In German. 1.50

8820-8823 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

8824-8829 PB L 74403 — Chlorinated naphthalene as addition product for plasticizers. By Machener, 1940. In German. 1.50

8830-8843 PB L 74403 — Review of literature on "Acetyl Sugar", "OAS", talloleic acids, and dihydroxy and tetrahydroxy stearic acids. By Machener, 1940. In German. 1.50

8844 PB L 74403 — On solvents with high boiling point, for diacetate. By Machener, 1940. In German. 1.50

8845-8850 PB L 74403 — On crotonic acid and on the continuous distillation of crude acetic acid. By Kemler, 1940. In German. 1.50

8851-8858 PB L 74403 — On 7-C-aldol, diglycol, 6-C-aldol, and acetylchloride. 1940. In German. 1.50

8859-8862 PB L 74403 — Improvement of zinc chloride. Investigation on viscosity and the degree of polymerization. Preparation of triacetate from solution. Hydration with small amounts of hydrochloric acid. 1940. In German. 1.50

8863-8868 PB L 74403 — On "Tripen", particularly on stabilization experiments on "Tripen". By Linde and Schaeffer, 1940. In German. 1.50

8869-8875 PB L 74403 — Condensation of acetone. 1940. In German. 1.50

8876-8883 PB L 74403 — Preparation of tubes, belts and similar products from "Vinnol HH". By Doriat, 1940. In German. 1.50

8884-8888 PB L 74403 — Experiments on the stability and use of plasticizers. By Doriat, 1940. In German. 1.50

8889-8893 PB L 74403 — Phosphoric acid content of "Drawirit" belts. By Platzer, 1940. In German. 1.50

8894-8903 PB L 74403 — Descriptive table concerning properties and composition of "Vinnol HH", with special regard to plasticizers used. 1940. In German. 1.50

8904-8906 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

8907-8911 PB L 74403 — Compilation of reports on work done in a certain section of the laboratory in Burghausen in 1939. In German. 1.50

8912-8918 PB L 74403 — On diacetone alcohol. By Kemler, 1940. In German. 1.50

8919-8922 PB L 74403 — On acetic acid. By Kemler, 1940. In German. 1.50

8923 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

8924-8930 PB L 74403 — Reports on diglycolic acid; benzyl ester of diglycolic acid; cyclohexanol ester of diglycolic acid; methyl ester of acetyl ricinoleic acid; and ethyl ester of ricinoleic acid. Behavior at low temperature. 1940. In German. 1.50

8931-8933 PB L 74403 — On sulfur spray. By v. Gruber-Rehenburg, 1940. In German. 1.50

8934-8936 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

Miscellaneous Chemicals (contd)

8937 PB L 74403 — Experiments with tetrachloroethane. By Schaeffer, 1940. In German. 1.50

8938-8940 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

8941-8946 PB L 74403 — Residues from the processing of acetone oil. 1940. In German. 1.50

8947-8952 PB L 74403 — Preparation of mesitol oxide. Research on diacetone alcohol and on concentration of acetic acid. 1940. In German. 1.50

8953 PB L 74403 — Brief report on various chemical analyses. 1940. In German. 1.50

8954-8965 PB L 74403 — On plasticizers for Drawirit belts. By Platzer, 1940. In German. 1.50

8966-8973 PB L 74403 — Research on (1) formaldehyde analysis; (2) glycol ester of diglycolic acid; (3) diethyl ethyl alcohol and diethyl acetaldehyde; (4) waste gas analysis in connection with diethylacetaldehyde; (5) diphenyl phosphoric acid chloride; (6) tricresyl phosphate; and (7) crotonaldehyde vinyl acetate. 1940. In German. 1.50

8974-8978 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

8979-8980 PB L 74403 — Survey of chemical analyses. 1940 In German. 1.50

8981-8986 PB L 74403 — Preparation of vinyl formate according to German Patent 654 282. By Machener, 1940. In German. 1.50

8987-8990 PB L 74403 — Preparation of plastic masses from di- and triacetate. By Machener, 1940. In German. 1.50

8991-8996 PB L 74403 — On "Lutterwasser" crotonaldehyde. By Nickl, 1940. In German. 1.50

8997-8999 PB L 74403 — On diacetone alcohol. By Kemler, 1940. In German. 1.50

9000-9007 PB L 74403 — Research on diglycolic acid, on glycol-MP-ester of diglycolic acid, and on 1,3-butylene glycol ester of diglycolic acid. 1940. In German. 1.50

9008-9011 PB L 74403 — Bleaching experiments on triacetate and on "B 2000". Improvement of the solubility of "B 2000". Examination of the degrees of polymerization. 1940. In German. 1.50

9012-9016 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

9017-9018 PB L 74403 — Table of laboratory reports. 1940 In German. 1.50

9019-9031 PB L 74403 — Experiments with plasticizers, and use of plasticizers. 1940. In German. 1.50

9032-9037 PB L 74403 — "Glybal" ester of diglycolic acid, Butyric acid from sodium butyrate. Molded materials of the Fulgurit-Werke. acetaldehyde and formaldehyde. 1940. In German. 1.50

9038-9042 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

9043-9047 PB L 74403 — Preparation of 1,3-butanediol by hydrogenation of acetaldol with the aid of Raney nickel. 1940. In German. 1.50

9048-9053 PB L 74403 — Preparation of vinyl formate. By Machener, 1940. In German. 1.50

9054-9062 PB L 74403 — On triacetone alcohol and methyl acetal. 1940. In German. 1.50

9063-9068 PB L 74403 — Research on "glybal" ester of diglycolic acid on acetaldehyde and formaldehyde, and on triethoxy acetic acid. 1940. In German. 1.50

9069-9070 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9071-9078 PB L 74403 — On "Tripen", and on "tetra" experiments. By Linde and Schaeffer, 1940. In German. 1.50

9079-9088 PB L 74403 — On "Drawirit" belts. 1940. In German. 1.50

9089-9099 PB L 74403 — Preparation of esters with high boiling point from aliphatic dicarboxylic acids and of hydroxy carboxylic esters. By Machener, 1940. In German. 1.50

9100-9105 PB L 74403 — On aryl esters of hydroxy fatty acids. By Machener, 1940. In German. 1.50

9106-9110 PB L 74403 — On dicaproic acid salt of 1,3-butanediol. By Machener, 1940. In German. 1.50

9111-9114 PB L 74403 — On triacetone dialcohol. Calorimetric determination of crotonaldehyde in crude butanol and in crude butyraldehyde. By Kemler, 1940. In German. 1.50

9115 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9116-9120 PB L 74403 — On diglycal, diethyl acetic acid, butyric acid, and various chemical analyses. 1940. In German. 1.50

9121-9128 PB L 74403 — Research work in the field of cellulose. 1940. In German. 1.50

9129-9134 PB L 74403 — On "Tripen", and "tetra" experiments. By Linde and Schaeffer. 1940. In German. 1.50

9135 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9136-9143 PB L 74403 — Analyses of acetone oil. Esters of glycol "MP". 1940. In German. 1.50

9144-9156 PB L 74403 — Preparation of branched dodecyl-alcohol. By Machener, 1940. In German. 1.50

9157-9159 PB L 74403 — On butyric acid, "REA", and on "glybal" ester of caproic acid. 1940. In German. 1.50

9160-9163 PB L 74403 — On triacetone dialcohol and on crude acetic acid. By Kemler, 1940. In German. 1.50

9164-9170 PB L 74403 — Concerning "Tripen" and "tetra" experiments. By Linde and Schaeffer. 1940. In German. 1.50

9171-9177 PB L 74403 — Preparation of branched dodecyl-alcohol (2-butyl-n-octanol). 1940. In German. 1.50

9178-9187 PB L 74403 — On aryl esters of hydroxy fatty acids. By Machener, 1940. In German. 1.50

9188-9189 PB L 74403 — Preparation of acetal and ester-like plasticizers. By Machener, 1940. In German. 1.50

9190-9194 PB L 74403 — I.G. Farben plasticizers for compound glass. 1940. In German. 1.50

Miscellaneous Chemicals (contd)

9195-9216 PB L 74403 — Reports on mesitol oxide; concentration of acetic acid; aldol; butylene glycol; triacetone dialcohol; and oxalic acid. By Nickl, 1940. In German. 1.50

9217-9222 PB L 74403 — On aldol condensation and on cleavage products of triacetone dialcohol. By Kemler, 1940. In German. 1.50

9223-9224 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9225-9230 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

9231-9240 PB L 74403 — Experiments for the removal of the mineral components from brown coal by means of hydrochloric acid. 1940. In German. 1.50

9241-9249 PB L 74403 — Formation of oil-like reaction products during the treatment of acetaldehyde or crotonaldehyde with alkali. 1940. In German. 1.50

9250-9251 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9252-9260 PB L 74403 — 1,3-butanediol ester of dicaproic acid. By Machener, 1940. In German. 1.50

9261-9263 PB L 74403 — 1,4-butanediol ester of dicaproic acid. By Machener, 1940. In German. 1.50

9264-9269 PB L 74403 — On hydro distillation, and on the recovery of acetylene from the chlorine water of the acetylene purification. 1940. In German. 1.50

9270-9274 PB L 74403 — On triacetone dialcohol and on aldol. By Nickl, 1940. In German. 1.50

9275-9279 PB L 74403 — On aldol condensation. By Kemler, 1940. In German. 1.50

9280-9283 PB L 74403 — On butyric acid. On dehydrogenation of diethyl ethylalcohol in the vacuum. On diglycal and diethyl acetic acid. On the analysis of chemical warfare agents. 1940. In German. 1.50

9284-9285 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9286-9290 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

9291-9299 PB L 74403 — Experiments for the removal of mineral components from brown coal with hydrochloric acid or by chlorination. 1940. In German. 1.50

9300-9311 PB L 74403 — On acetic ether. Experiments on the oxidation of acetaldehyde in the tower. By Kemler, 1940. In German. 1.50

9312 PB L 74403 — Table of laboratory reports. 1940. In German. 1.50

9313-9315 PB L 74403 — Research reports concerning diethyl acetaldehyde, butyric acid, drying of aldol, diglycol, and corrosion testing in connection with esterification of 7-C-acid, 1940. In German. 1.50

9316-9329 PB L 74403 — Effect of non-solvents on solutions of acetate cellulose. Investigations on the properties of various cellulose products. 1940. In German. 1.50

9330-9387 PB L 74403 — Conversion of monovalent organic hydroxy compounds with alcoholates in the liquid phase. 1940. In German. 1.50

9388-9393 PB L 74403 — On "Tripen". By Linde, 1940. In German. 1.50

9394-9396 PB L 74403 — On sulfur spray and dried sulfur spray. By v. Gruber-Rehenburg, 1940. In German. 1.50

9397-9400 PB L 74403 — Experiments for the removal of mineral cosponents from brown coal by means of hydrochloric acid or by chlorination. By Riensner, 1940. In German. 1.50

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

Communication Equipment

PB L 80908. U. S. WAR DEPARTMENT. Detector sets SCR-625-A,-B,-C,-D,-E and-F. (Tech Manual 11-1016). May 1945. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80924. U. S. WAR DEPARTMENT. Installation instructions for carrier terminals OA-11/FC and OA-12/FC and carrier repeater OA-9/FC (Type C carrier telephone packaged equipment). (Tech Manual 11-2023). Sep 1944. 72 p. Price: Microfilm-$2.00 - Photostat-$5.00

PB L 80901. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in carriage, motor, 3-inch gun, M10 or M10A1. (Tech Manual 11-2723). Apr 1945. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80920. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in carriage, motor, 75-mm Howitzer, M8. (Tech Manual 11-2727). May 1945. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80918. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in carriage, motor, 76-mm gun, M 18. (Tech Manual 11-2726). Apr 1945. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80919. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in carriage, motor, 90-mm gun, M36, M36B1 or M36B2. (Tech Manual 11-2731). May 1945. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80927. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in light tanks M5 and M5A1. (Tech Manual 11-2720). Dec 1944. 58 p. Price: Microfilm-$2.00 - Photostat-$4.00

PB L 80907. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in medium tank M4A3 or M4A3E2, 75-mm gun, wet stowage; medium tank M4A1, M4A2 or M4A3, 76-mm gun, wet stowage; medium tank M4 or M4A3, 105-mm howitzer. (Tech Manual 11-2745). Jan 1945. 40 p. Price: Microfilm-$1.00 - Photostat-$3.00

Communication Equipment (contd)

PB L 80903. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in tank, light, M 24. (Tech Manual 11-2754). Feb 1945. 45 p. Price: Microfilm-$1.00 - Photostat-$3.00

PB L 80905. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in tank, medium, T 23. (With changes no. 1, Mar. 6, 1945). (Tech Manual 11-2730). Jan 1945. 40 p. Price: Microfilm-$1.00 - Photostat-$3.00

PB L 80922. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in vehicle, landing, tracked (armored) Mark I, LVT-(A)-1. (Tech Manual 11-2752). Jan 1945. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80923. U. S. WAR DEPARTMENT. Installation of radio and interphone equipment in vehicle, landing, tracked (armored), Mark IV, LVT-(A)-4. (Tech Manual 11-2753). Feb 1945. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80912. U. S. WAR DEPARTMENT. Installation of radio equipment in armored utility car M20. (Tech Manual 11-2716). Nov 1944. 29 p. Price: Microfilm-$1.00-Photostat-$2.00

PB L 80921. U. S. WAR DEPARTMENT. Installation of radio equipment in carriage, motor, combination gun, M15A1. (Tech Manual 11-2739). May 1945. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80906. U. S. WAR DEPARTMENT. Installation of radio equipment in carrier 81-mm mortar, half-track M21. (Tech Manual 11-2732). Jun 1945. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80902. U. S. WAR DEPARTMENT. Installation of radio equipment in truck, 3/4-ton, 4 x 4, weapon carrier. (Tech Manual 11-2725). Feb 1945. 68 p. Price: Microfilm-$2.00 - Photostat-$5.00

PB L 80926. U. S. WAR DEPARTMENT. Preventive maintenance: Radio equipments RC-182-A and RC-282-A. (Tech Manual 11-1408). Jul 1944. 64 p. Price: Microfilm-$2.00 - $5.00

PB L 80904. U. S. WAR DEPARTMENT. Radio receiver and transmitter BV-474-A, Repair instructions. (Tech Manual 11-4006). May 1945. 44 p. Price: Microfilm-$1.00-Photostat-$3.00

PB L 80620. U. S. WAR DEPARTMENT. Radio sets: SCR-AF-183, SCR-AG-183, SCR-AH-183, SCR-AJ-183, SCR-AK-183, SCR-AL-183, SCR-AN-183, SCR-AL-283, and SCR-AN-283. (Tech Manual 11-200). Oct 1942. 253 p. Price: Microfilm-$6.00 - Photostat-$17.00

PB L 80925. U. S. WAR DEPARTMENT. Radio transmitters BC-191-A,-B,-C,-E,-F and -H: Repair instructions. (Tech Manual 11-4017). Jun 1945. 80 p. Price: Microfilm-$2.00 - Photostat-$6.00

PB L 78608. U. S. WAR DEPARTMENT. Radio transmitters (Wilcox Electric Types 96A, 96C, and 96C3). (Tech Manual 11-2671). Dec 1945. 121 p. Price: Microfilm-$3.00-Photostat-$9.00

PB L 80910. U. S. WAR DEPARTMENT. Service manual for radio equipments RC-182-A and RC-282-A, theory, trouble shooting and repair. (Tech Manual 11-1508). Sep 1944. 326 p. Price: Microfilm-$7.00 - Photostat-$22.00

PB L 80928. U. S. WAR DEPARTMENT. Service radio set SCR-615-A: Theory, trouble shooting and repair. (Tech Manual 11-1541). Dec 1944. 515 p. Price: Microfilm-$11.00 - Photostat-$35.00 (Available from the Supt of Docs. Washington 25, D. C., $1.50).

PB L 80630. U. S. WAR DEPARTMENT. Signal communication equipment directory: German radio communication equipment. (Tech Manual E11-227). Jun 1944. 61 p. Price: Microfilm-$2.00 - Photostat-$5.00

PB L 80632. U. S. WAR DEPARTMENT. Telephone terminal sets TC-21A and TC-21-B (Carrier) and repeater set TC-23-A (Carrier). (Tech Manual 11-341). Oct 1945. 245 p. Price: Microfilm-$5.00 - Photostat-$17.00

Electronics

PB L 80723. ABKOWITZ, D. E. Dynamic and static compression testing of 3/8-inch copper balls. (David W. Taylor Model Basin Rept R-240). Jul 1947. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00

Copper balls, 3/8 inch in diameter, for use in ball-crusher gages, were calibrated statically and dynamically to investigate the relationship of speed effect to deformation. The falling-weight apparatus used in the dynamic calibrations is described, and the results are shown in energy-deformation curves. The results of these calibrations are compared with the results of calibrations made by the Underwater Explosives Research Laboratory on their apparatus which was found to be 3 per cent or less higher. This difference of 3 per cent is well within the limits of the experimental error of each calibration. Diagrams, sketches, tables and curves are included.

PB L 80882. ARNDT, WM. FRED. Analyses of bearing deviation indicator (BDI) systems. (Columbia Univ Div War Res Memo D51/R823). Mar 1944. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

This discussion has been limited to the four best-known systems of obtaining BDI, namely, SLC, PAL, RLI, and MRL. The early work on SLC (Simultaneous Lobe Comparison) was done by the Harvard Underwater Sound Laboratory. The Bell Telephone Laboratories originated the PAL (Phase Actuated Locator), while the RCA Mfg. Co. suggested the RLI (Right-Left-Indica-

tor) system. The Naval Research Laboratory originated the NRL system. Particular attention is paid to the use of BDI systems on submarines for listening to propeller noise rather than for use with echo-ranging systems. Circuit diagrams included.

PB L 80885. ARNDT, WM. FRED. Elimination of background noise in the Mark II serial #4 rack. (Columbia Univ Div War Res Memo D20/R379). Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a report on the study and proposed means for the required reduction of the noise level in the Mark II Serial #4 Rack of the echo-ranging equipment of the U.S. Navy Underwater Sound Laboratory, Fort Trumbull in New London, Connecticut.

PB L 80883. ARNDT, WM. FRED. Preliminary triplane tests. (Columbia Univ Div War Res Memo G 37/A2A4/R577). Oct 1943. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum describes a series of tests conducted for the purpose of determining whether or not a triplane target could be used as a permanently anchored, submerged target for supersonic echo-ranging practice and precision bearing studies. Photographs included.

PB L 80888. ARNDT, WM. FRED. Proposed test equipments for the field engineering group. (Columbia Univ Div War Res Memo Rept A2A4/R518). Sep 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This file memorandum describes a proposed testing equipment for field engineers of the U. S. Navy Underwater Sound Laboratory, New London, Connecticut consisting of a sound gear monitor, a sound gear tester, a recorder and a fixed target. It was issued to the members of the field engineering group and other interested parties to give them an opportunity to study and comment on the proposed set up.

PB L 80886. ARNDT, WM. FRED. QC driver tuning - comparison of several methods. (Columbia Univ Div War Res Memo P29/R474). Aug 1943. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This memorandum contains the description of various tuning methods for the QC driver compiled by the U. S. Navy Underwater Sound Laboratory, Fort Trumbull, New London, Connecticut for the use of its engineering group and was intended to supplement the data gathered together by that group. Graphs and tables included.

PB L 80884. ARNDT, WM. FRED. Reduction of background noise in the Mark II rack. Supplement to memorandum for file, D20/R379. (Columbia Univ Div War Res Memo D20/R386). Jun 1943. 1 p. Price: Microfilm-$1.00-Photostat-$1.00
This file memorandum reports on the proposed means for the reduction of background noise in the Mark II rack of the echo-ranging equipment of the U. S. Navy Underwater Sound Laboratory, Fort Trumbull in New London, Connecticut, and is a supplement to a similar report, PB 80885, above.

PB L 80881. ARNDT, WM. FRED. Sea trials of the towed submerged echo repeater target (SR-2). Preliminary report. (Columbia Univ Div War Res Memo G37/A2A4/R546). Oct 1943. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This file memorandum contains a preliminary report on sea trials of the towed submerged echo repeater target conducted at the U. S. Navy Underwater Sound Laboratory, Fort Trumbull, New London, Connecticut. It includes certain recommendations for the use of such targets developed from the trials.

PB L 80889. ARNDT, WM. FRED. Testing means for QC echo-ranging indicator-amplifier-control units being manufactured by the Submarine Signal Company, and the RCA Manufacturing Company. (Columbia Univ Div War Res Memo D20/R392). Jun 1943. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This file memorandum describes and explains the operation of an apparatus for the testing of the QC echo-ranging indicator-amplifier-control units manufactured by the Submarine Signal Company, and the RCA Manufacturing Company. It provides a set of standard voltages which can be impressed on the input terminals of the BDI and/or the Audio Amplifier thus producing certain standard voltages at the various parts of the circuit. Once these are measured and recorded at a time when the amplifier is known to be lined up properly, a set of correlated input voltages, circuit voltages and output voltages is then available for future reference.

PB L 80887. ARNDT, WM. FRED. Useful data pertaining to Sangamo sound range recorders. (Columbia Univ Div War Res Memo D26/R498). Sep 1943. 4 p. Price: Microfilm-$1.00 - Microfilm-$1.00
This document contains data pertaining to Sangamo sound range recorders, particularly to the stylus circuits for the various models of recorders, which data were not available from the instruction book on the equipment. Circuit diagrams are included.

PB L 80604. BOYERS, J. S. Notes on the operation of wire recorders at the New London laboratory. (Columbia Univ Div War Res Memo P37/R1330). Feb 1945. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00
These notes on the operation of the wire recorder refer particularly to the prevention of irregularities in the recording and reproducing operation and the treatment and care to be given to the reproducing wire and the mechanism of the recorder in general. The advantages of Model 20 Recorder over Model 50 are described. Photographs and drawings included.

PB L 80705. COBINE, J. D. and GALLAGHER, C. J. Effects of magnetic field on oscillations and noise in hot-cathode arcs. (Harvard Univ Radio Res Lab Rept 1406). Apr 1946. Available from American Institute of Physics, 57 E. 55 St., New York 22, N. Y. - Price: $1.00
The voltage disturbances in hot-cathode arcs are markedly affected by a magnetic field transverse to the normal flow of current. The normal plasma oscillations can be suppressed and the noise level above 1 Mc/sec. greatly increased. The oscillations appear to be transmitted to the electrodes by electrons whose velocity is modulated by the plasma ion oscillations as they travel directly from cathode to anode. The effect of the magnetic field is to remove these electrons from the current reaching the anode. A critical value of magnetic field will suppress the oscillations and reduce the noise to a minimum. As the magnetic field is further increased the high frequency noise level increases. The high frequency noise level also increases if the pressure decreases, or if a lighter gas is used. The noise level is independent of the plasma volume. The effect of the magnetic field is to build up a region of high ion density in a narrow region near the electron source. Plasma oscillations with continuous spectrum are generated in this region of high density and high density gradient. Graphs and bibliographic references are included.

PB L 65604. GREAT BRITAIN. MINISTRY OF TRANSPORT. International meeting on radio aids to marine navigation, May, 1946. Vol. I. Record of the meeting held in London, and of demonstrations and visits. (British Commonwealth Scientific Office Rept 75-BC-76). 1946. 104 p. Price: Microfilm-$3.00 - Photostat-$7.00
For Vol. II on radio navigation, radar and position fixing systems for use in marine navigation see PB 57510.

PB L 57510. GREAT BRITAIN. MINISTRY OF TRANSPORT. International meeting on radio aids to marine navigation, May 1946. Vol. II. Radio navigation. Radar and position fixing systems for use in marine navigation. (British Commonwealth Scientific Office Rept 75-B8-76a). 1946. 190 p. Price: Microfilm-$4.00 - Photostat-$13.00
This volume has been prepared from the scientific and technical documents presented to the International meeting held in London, May 1946. For proceedings of this meeting see Vol. I, PB 65604. The papers were designed to present a concise and authoritative account of the state of the art to the delegates. They have been revised in the light of discussions and decisions at the meeting. It is hoped that the volume will be found useful both as a text-book for students and as a work of reference to those already familiar with radio aids to marine navigation.

PB L 80603. HANSON, R. O. The BTL high fidelity tape recorder. (Columbia Univ Div War Res Memo P37/R1320). Jan 1945. 37 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report contains a detailed description and operating instructions of the Bell Telephone Laboratories (five minute) High Fidelity Tape Recorder used by the Sound Recording Group of the U. S. Navy Underwater Sound Laboratory at New London. Photographs, drawings and diagrams included.

PB L 80600. HANSON, R. O. Lateral disc recording at the New London laboratory. (Columbia Univ Div War Res Memo P37/R1312). Jan 1945. 23 p. Price: Microfilm-$1.00 - Photostat-$2.00
This report covers a short description of lateral recording and the related cutting equipment at the U. S. Navy Underwater Sound Laboratory in New London, Connecticut. Graphs and photographs included.

PB L 80596. HANSON, R. O. and WATKINS, WM. B. Operating and servicing instructions Presto model 8K recorder. (Columbia Univ Div War Res Memo P37/R1333). Feb 1945. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report contains operating and servicing instructions for model 8K disc recorder used both for recording in the field and recording master records at the U. S. Navy Underwater Sound Laboratory, Fort Trumbull, New London, Connecticut. It also describes the modifications in the machinery necessary to use the recorder aboard ship under conditions of excessive vibration from the engine and rolling and pitching with the sea. Graph, photograph and circuit diagrams included.

PB L 80601. HANSON, R. O. Operating instructions for re-recording facilities at the New London laboratory. (Columbia Univ Div War Res Memo P37/R1316). Feb 1945. 96 p. Price: Microfilm-$2.00 - Photostat-$7.00
This memorandum contains information and operating instructions on re-recording equipment installed at the U. S. Navy Underwater Sound Laboratory, New London, Connecticut. It includes monitoring, reproducing and announcing facilities both in use at the time of the memorandum and those discarded prior to its issue. Photographs, drawings and wiring and circuit diagrams included.

PB L 80605. HANSON, R. O. and SAARS, W. F. The R.C.A. type 73-A recorder, mechanical modifications and operating instructions. (Columbia Univ Div War Res Memo P37/R1331). Apr 1945. 24 p. Price: Microfilm-$1.00 - Photostat-$2.00
This document contains a detailed description of the R.C.A. type 73-A sound recorder and instructions for its operation, including experiences with its initial installation at the U. S. Navy Underwater Sound Laboratory, Fort Trumbull, New London, Connecticut. Photographs, drawings, wiring diagrams and parts lists included.

PB L 80597. HANSON, R. O. Re-recording facilities at the New London laboratory. (Columbia Univ Div War Res Memo P37/R1332). Feb 1945. 53 p. Price: Microfilm-$2.00 - Photostat-$4.00
This report describes the re-recording facilities of the U.S. Navy Underwater Laboratory, Fort Trumbull, New London, Connecticut the purpose of which was to provide means of copying master records without appreciable deterioration of the frequency characteristic of signal-to-noise ratio, to provide the means of making composite records containing spoken announcements which may be used as demonstration or training records and to give high fidelity playback and monitoring facilities which may be used for listening tests to evalute records made in the field. Graphs, photographs and block diagrams included.

PB L 80700. HILL, B. C., JR. Instruction book for preliminary model harmonic calibrator. A edition. (Nav Res Lab Rept R 74A 317A) Apr 1944. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
This instruction book contains a description of a model harmonic calibrator which consists of a powerful source of 40 Mc which is very rich in harmonics. This may be modulated by 10 Mc and/or 1 kc if desired. These harmonics are strong enough to operate wavemeters or produce beats with signal generators to 1200 Mc, enabling the operator to calibrate or check the calibration of wavemeters and signal generators from 10 Mc to 1200 Mc. Full operating and maintenance instructions are given. Photographs, parts list and circuit diagram included.

PB L 67747. HOLLMANN, H. E. Generation and amplification of decimeter and centimeter waves. May 1943. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00
This document deals with research and discoveries in ultra-short wave technique up to 1943, especially in the field of generation, amplification and back-coupling, in velocity modulated tubes, plasma oscillations and ultrashort wave spark-type generators. Thus it brings up to that date the author's work "Physik und technik der ultrakurz wellen" published in 1936. The present document is a reprint from "Telegraphen-, Fernsprech-, Funk-und Fernseh-Technik", Band 31, Heft 11, 12(1942) and Band 32, Heft 1,2,3 (1943). Drawings, photographs, circuit diagrams and bibliography included. In German.

PB L 80586. HULL, GORDON FERRIE., JR. Diffraction patterns of microwave paraboloid antennas. Mar-Apr 1947. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
This document contains a mathematical analysis of diffraction patterns of microwave paraboloid antennas with a wave source, such as the open end of a wave guide, placed in the focal point of a paraboloid of rotation, and a comparison of the theoretical patterns with the results of experimental investigation of such patterns. Graphs included.

PB L 80599. JACOB, W. P. and HANSON, R. O. USL Re-recording channel at Muzak Corporation. (Columbia Univ Div War Res Memo P37/R1362). Mar 1945. 66 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report describes the New London, Connecticut, U. S. Navy Underwater Sound Laboratory re-recording equipment located in the W.46th Street studios of the Muzak Corporation in New York City. It is used for dubbing from acetate to wax masters in order to facilitate high-quality record processing. Photographs and circuit diagrams included.

PB L 80320. KAPLAN, LOUIS LEO. Re-entrant cavity for tube type A2302. (Sig Corps Eng Lab Tech Memo M-1049). May 1947. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes a re-entrant type oscillator cavity for use in testing the A2302 type tube in the frequency region of 2000 to 4000 megacycles. This cavity may be operated as

a pulsed or C. W. Oscillator and is provided with a sufficient number of variable devices, permitting it to be turned thru the complete range indicated above. Variations in tube parameters are also accommodated by these variable controls. Results obtained in pulse and C. W. tests on the A2302A type tube are shown. Graphs and drawings included.

PB L 18583-S. STURM. Hysteresis meter. (Supplement to PB 18583). (FIAT Final Rept 669, Supp.) Dec 1945. 40 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report describes a precision a-c voltmeter used as angular velocity indicator in telemetering installations. The instrument is based on the utilization of the hysteresis loop of hard steel for the development of the torque. Drawings and diagrams included. In German. PB 18583 will be found on page 32, vol. II, this Bibliography.

PB L 76031. U. S. NAVAL TECHNICAL MISSION TO JAPAN. Magnetic development in Japan during world war II. (Rept X-34(N)). Jan 1946. 62 p. Price: Microfilm-$2.00-Photostat-$5.00
Research on new magnetic materials and magnetic phenomena was carried on in universities, and was not affected seriously by the war until many of the laboratories were destroyed by bombing. There was little cooperation with the Army and Navy. A new iron-aluminum alloy, Alfer, was developed for use in magnetostriction oscillators as a substitute for nickel. The Japanese also investigated the iron-nickel-silicon alloys and found one having low nickel content and high permeability. The Japanese manufacture about twenty different magnetic materials, of which four are not made in America. These are Alfer; Sendust, a high-permeability alloy of iron, silicon and aluminum; and two permanent magnet materials, MK5 and OP, both of which were developed before the war. One important new application of magnetic materials has been the use of Alfer in magnetostriction supersonic projectors and microphones. In the theory of the magnetic amplifier, the Japanese are far behind the United States and Germany. About 60 individuals were interviewed and 20 plants and institutions were visited. Diagrams are included.

PB L 80917. U. S. WAR DEPARTMENT. Oscillators VO-6-A and -B: Repair instructions. (Tech Manual 11-4011). May 1945. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80625. U. S. WAR DEPARTMENT. Radio set SCR-291-A (direction finding). (Tech Manual 11-243). Mar 1944. 230 p. Price: Microfilm-$5.00 - Photostat$16.00

PB L 80624. U. S. WAR DEPARTMENT. Recorder RD-2/GXR. (Tech Manual 11-382). Jan 1944. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00

PB L 78620. U. S. WAR DEPARTMENT. Static direction finder AN/GRD-1A. (Tech Manual 11-2693). Sep 1945. 115 p. Price: Microfilm-$3.00 - Photostat-$8.00

PB L 80690. WALTON, C. E. and ARNDT, WM. FRED. Description of an experimental model of a sound range recorder trace projection system. (Columbia Univ Div War Res Memo P21/A2A4/R589). Oct 1943. 54 p. Price: Microfilm-$2.00 - Photostat-$4.00
This file memorandum describes an experimental model of a sound range recorder trace projection system consisting essentially of an opaque projector so mounted over a sound range recorder that the traces produced are projected on a screen. The resultant image is substantially six times the size of the original record. The analyser mechanism on the cover casting of the sound range recorder is also reproduced six times the size of the original scales on the screen unit. Drawings and photographs included.

PB L 80602. WATKINS, W. B. and HANSON, R. O. Laboratory field recording. (Columbia Univ Div War Res Memo P37/R1299). Mar 1945. 17 p. Price: Microfilm-$1.00 - Photostat-$2.00
The present report describes the very complete high quality recording facilities for various types of recording installed at the Columbia University Division of War Research at the U. S. Navy Underwater Sound Laboratory at Fort Trumbull, New London, Connecticut. The equipment had been intended to meet the most exacting requirements for recording aboard surface ships, submarines and aircraft. Photographs and circuit diagrams included.

PB L 77010. WHEATON, HERBERT H., ed. General lecture series on radar components. (Mass Institute of Technology. Radiation Lab Rept T-18). Dec 1944. 205 p. Price: Microfilm-$5.00 - Photostat-$14.00
This report consists of a group of 23 lectures that were given to approximately one hundred fifty radiation laboratory employees in January and February, 1944, by the men whose names appear at the headings of the chapters. It must be understood by the readers of these lectures that they do not comprise a text book. The subjects selected were those that seemed desirable at the time, and no further articles have been added because this is a record of the lecture series.

PB L 80665. ZWORYKIN, V. K. and FLORY, L. E. An electronic reading aid for the blind. Oct 1946. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
This is a reprint from proceedings of the American Philosophical Society, Vol. 91, No. 2, 1947. Construction and use of the electronic reading aid is described and illustrated. A schematic diagram of the electric circuit is included.

FOOD AND KINDRED PRODUCTS

*PB L 79237. BLACK, W. and DRIVER, C. M. Potato breeding. (BIOS Final Rept 1248, Item 22) Oct 1946. 32 p. Price: Microfilm-$1.00 - Photostat-$3.00
Practical potato breeding in Germany is largely a commercial proposition. Research stations do not normally produce new commercial varieties, but do good service in supplying highly bred hybrid varieties to potato breeders for use as parents and in undertaking laboratory tests on a number of selections for the breeders. This report is written in three sections: I. Detailed report on each of eight targets visited; II. Survey of the work as a whole; and III. Organization of potato breeding in Germany.

*PB L 79232. BONDI, H. S. and others. The German shrimp processing industry. (BIOS Final Rept 1303, Item 22) Mar 1947. 41 p. Price: Microfilm-$1.00 - Photostat-$3.00
The primary object was to investigate factories in Germany producing a product known as shrimp extract or concentrate. Prior to the war this material was exported to Britain to be used in the manufacture of salmon and shrimp paste. The second objective was the location and investigation of certain machines said to be used for peeling shrimps. Appendix I shows a layout of a shrimp extract plant at Cuxhaven. Appendix II is a drawing of a shrimp peeling machine. Ap-

pendix III, The keeping quality of shrimp flesh, by W. Henning. Appendix IV, Research on shrimp and shrimp products, used for human or animal consumption, by O. Willie.

*PB L 79441. BRITISH INTELLIGENCE OBJECTIVES SUB-COMMITTEE. Aspects of the German quick freezing industry. Interrogation of Dr. P. H. Simonowsky. (Final Rept 1245, Item 22; Interrogation Rept 428). Oct-Nov 1946. 18 p. Price: Microfilm-$1.00 - Photostat-$2.00
Dr. Simonowsky is the technician, chemist and production manager of Solo Feinfrost, a German company engaged in the freezing of fish, meat, vegetables and fruit. He has been particularly associated with the vegetable and fruit side of the business. Discussions with Dr. Simonowsky were held on Oct. 26, and Nov. 14, 1946. Between the two meetings, he prepared documents in response to questionnaires submitted to him, and this report is based on these documents and on the answers to verbal queries.

PB L 78576. GRUESS, W. B. and others. Fruit dehydration studies. Final report. (QMC Project R 140-43 -A, B, 141-43, 143-43, 154-43) 1943-44. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00
This report contains studies on dehydration undertaken by the University of California as a means of increasing storage life on dried fruits, reprocessing of dried fruits to prolong their life in tropical storage, fruit bars for use in emergency rations, cooking of dried fruits, dehydration of rhubarb, pineapple and other products. Photographs and tables are included.

PB L 78569. GRUESS, W. V. and others. Fruit dehydration studies. Final report. (QMC Project R 140-43 -A, B, 141-43, 143-43, 154-43) 1944-45. 114 p. Price: Microfilm-$3.00 - Photostat-$8.00
This report contains studies on dehydration of fruits undertaken by the University of California as a means of increasing storage life of dried fruits, reprocessing of dried fruits to prolong their life in tropical storage, fruit bars for use in emergency rations, cooking of dried fruits, dehydration of rhubarb, pineapple and other products. Charts, tables and a list of references are included.

PB L 79336. KEEN, B. A. and others. Report of the mission appointed to enquire into the production and transport of vegetable oils and oil seeds produced in the West African colonies. (British Commonwealth Scientific Office Rept 120-B1-86). 1947. 69 p. Price: Microfilm-$2.00 - Photostat-$5.00
Observations and recommendations of the mission are presented.

*PB L 81632. KOHORN, OSCAR VON and COSTA, JOSEPH L. Cellulose sheeting and sausage casing machinery and processes. (FIAT Final Rept 956). Jun 1947. 65 p. Price: Mimeo-$1.75
This report describes machines and processes used in the production of cellophane sheets and casings at Kalle & Co. A.G., Wiesbaden-Biebrich. The details of and formulae for the moisture proofing process and a German patent review on the subject are also included. Appendix I gives a list of German personnel interviewed, Appendix II a list of factories visited, Appendix III a bibliography, and Appendix IV a list of drawings, diagrams, and photographs.

*PB L 79427. RICHARDSON, E. L. Fish meal and herring meal processing machinery industry, and fish meal and herring meal processing industries. (BIOS Final Rept 1103, Item 22, 31) Aug-Sep 1946. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
A list of 33 German fish meal, herring meal and herring oil manufacturers is given. Seven factories were visited and individual report given on each. A majority of the firms are stated to be "Not working," due either to the operation of a pooling scheme, to shortage of raw material or to war damage. Appendix contains layout for oil and fish meal plant and conclusions.

PB L 78585. U. S. QUARTERMASTER FOOD AND CONTAINER INSTITUTE FOR THE ARMED FORCES. COMMITTEE ON FOOD RESEARCH. Research program, 1945-1946. (QMC Manual 17-8). 1945-1946. 118 p. Price: Microfilm-$3.00 - Photostat-$8.00
This publication is the first step in a relations program to acquaint cooperating and interested organizations with the activities of The Committee on Food Research. The mission and objectives, functions, accomplishments, future plans, inplications and project abstracts of the program are presented. The Committee has for its mission the fostering of scientific investigations which will provide a bulwark of technical information for the solution of current feeding problems of the Armed Forces and a reserve for national security in times of emergency. A list is given of cooperating institutions. This publication is divided into eight sections covering the following topics: (1) Biochemistry of the browning reaction; (2) Lipid deterioration; (3) Microbiology studies; (4) Food acceptance research; (5) Nutrition; (6) Cereals and baked products; (7) Dairy products; and (8) Dehydrated potato studies. A complete index is included.

PB L 80631. U. S. WAR DEPARTMENT. The army baker. (Tech Manual 10-410). Apr 1945. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00 (Available from the Supt of Docs. Washington 25, D. C., 20¢).

PB L 80627. U. S. WAR DEPARTMENT. Army recipes. (Tech Manual 10-412). Aug 1946. 399 p. Price: Microfilm-$8.00 - Photostat-$27.00 (Available from the Supt of Docs. Washington 25, D. C., $1.50).

PB L 80614. U. S. WAR DEPARTMENT. Emergency food plants and poisonous plants of the islands of the Pacific. (Tech Manual 10-420). Apr 1943. 152 p. Price: Microfilm-$4.00 - Photostat-$11.00

HIGHWAYS AND BRIDGES

PB L 69845. ASSOCIATION FOR PLANNING AND REGIONAL RECONSTRUCTION. The location of trunk roads in urban areas. Sep 1946. 11 p. Price: Microfilm-$1.00 - Photostat-$1.00
This bulletin is issued by the International Technical Congress, Paris and deals with trunk road location for cities. Sketches showing proposed trunk roads for Leeds, New Delhi and London are included.

PB L 79379. MILITARY ENGINEERING. Small box girder bridge, Mark III. Vol. III, part II, with amendment 1, 1941. (Pamphlet 5A; British Commonwealth Scientific Office Rept 74-80-51a). Oct 1942. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
The small box girder bridge Mark III has been introduced to give increased load-carrying capacity; this pamphlet, which contains a brief description of the equipment, should be read in conjunction with pamphlet No. 5 (Small box girded bridge Mark II) see PB L 79380.

PB L 79380. MILITARY ENGINEERING. Small box girder bridge, Mark III. Vol. 3, part II, with amendment 1-3, 1941. (Pamphlet 5; British Commonwealth Scientific Office Rept 74-B0-51). Oct 1942. 52 p. Price: Microfilm-$2.00 - Photostat-$4.00

These girder bridges are carried in the field in sets. The bridge consists of a 9 feet, 9 inch roadway supported on two or four girders, each made of 16 foot sections, so that clear spans of 64 feet, 48 feet, or 32 feet can be bridged. Instructions for loading, launching and erecting the bridges are given in detail. The text is supplemented by illustrations and drawings. For increasing the load-carrying capacity see pamphlet No. 5A, PB L 79379.

PB L 79135. U. S. MISSISSIPPI RIVER COMMISSION. Resinous water repellents for soils. Interim report. (Tech Memo 217-1). May 1946. 135 p. Price: Microfilm-$3.00 - Photostat-$9.00

Results of an investigation to determine the suitability of resinous water repellants for military construction and the type or types best suited for such use are presented. Laboratory and field tests were made. Repellants studied include Vinsol, 321, Stabinol, NSP-121, NSP-25-2, and NVX. Tables and plates are included. The investigation was conducted by personnel of the Embankment and Foundation Branch of the Waterways Experiment Station, Soils Division.

PB L 80579. U. S. WAR DEPARTMENT. Portable steel highway bridges H-10 and H-20. (Tech. Manual 5-274) Jun 1943. 54 p. Price: Microfilm-$2.00 - Photostat-$4.00 (Available from the Supt of Docs, Washington 25, D. C., 15¢)

The H-10 portable steel highway bridge can be quickly erected over gaps not wider than 96 feet. It is used when building a fixed timber bridge is too slow and building a floating bridge impracticable. The portable steel highway bridge H-20 provides a rapid means of stream crossing for heavier loads than can be carried by the portable steel highway bridge H-10, or for spanning longer gaps. Illustrations.

PB L 80578. U. S. WAR DEPARTMENT. Ten-ton trestle bridge. (With changes No. 1, Apr 11, 1944.) (Tech Manual 5-276) Oct 1943. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00 (Available from the Supt of Docs, Washington 25, D. C., 15¢)

This is a portable fixed bridge. It is suitable for crossing infantry division loads over dry gaps, or over a shallow stream the bed of which is less than 12 feet below the deck. The bridge consists of 10-ton trestle balk and chess supported on 10-ton trestles. Trestle bracing makes the bridge more stable. Illustrated.

LUMBER AND WOOD PRODUCTS

*PB L 80377. BARNES, JULIAN S. German veneer industry. (BIOS Final Rept 1268, Item 22, 31). Sep 1946. 12 p. Price: Microfilm-$1.00 - Photostat-$2.00

Nine German factories were visited and an individual report is given on each factory. Two photographs are included, one showing a veneer peeling machine and the other a veneer slicing machine.

PB L 79338. COLLIER, F. S. Annual report of the Forest Administration of Nigeria for the year 1945-46. (Legislative Council Sessional Paper 6; British Commonwealth Scientific Office 25-B28-275). 1947. 44 p. Price: Microfilm-$1.00 - Photostat-$3.00

PB L 65602. GREAT BRITAIN. BOARD OF TRADE. Working party reports: Furniture. (British Commonwealth Scientific Office Rept 160-B1-103). 1946. 209 p. Price: Microfilm-$5.00 - Photostat-$14.00

This report is arranged in twelve chapters under the following titles: General survey of the furniture industry. Raw materials. The structure and development of the industry. Technical development in furniture production. Welfare and labor standards. Minimum standards for furniture. Designs. Education. Technical research. The future of utility furniture. Retailing and distribution, and export. Conclusions and eleven appendices complete the report. Tables and charts are included.

PB L 79366. GREAT BRITAIN. DEPARTMENT OF FORESTS. PALESTINE. Annual report for the year 1946. (British Commonwealth Scientific Office Rept 25-C9-2). 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 79368. GREAT BRITAIN. DEPARTMENT OF FORESTS. PALESTINE. Empire forests during the War, 1939-1945. Palestine. (Rept 1; British Commonwealth Scientific Office Rept 25-C9-4). 1947. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 79350. GREAT BRITAIN. FORESTRY COMMISSION. Establishment of hardwoods by sowing or planting. (Forest Operations 2; British Commonwealth Scientific Office Rept 25-B28-274). 1947. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00

This booklet describes the methods that have proved most satisfactory in the raising and establishing by direct sowing or planting of seven major hardwoods.

PB L 79365. GREAT BRITAIN. LAWS, STATUTES, ETC. List of protected trees under forest ordinance. Part V, Section 14 of Forests Ordinance, Cap. 61. (British Commonwealth Scientific Office Rept 25-C-9-3). Apr 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

The list refers to protected trees in Palestine giving official, common, Arabic, and Hebrew names.

PB L 79393. LUSHINGTON, H. E. C. Ceylon. Forest conservancy. Administrative report for 1944-45. Part II. Revenue (C). (British Commonwealth Scientific Office Rept 25-B28-268). 1947. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00

MACHINERY (EXCEPT ELECTRICAL)

PB L 63777-S. FABRITZ, G. The present state of development with regard to large water turbines and water supply pump design. Parts I-III incl. (Supplement to FIAT Final Report 966, PB 63777, abstracted in v. 5, p. 674) 1944. 30 f. Price: Microfilm-$1.25 - Enlargement print-$3.00

This supplement consists of three articles which appeared in the Zeitschrift des Vereins Deutschen Ingenieure in NSBDT (VDI-Zeitschrift), Volume 88, October, November and December 1944. The first article on pages 529 to 542 inclusive is entitled, "Kaplan, Francis and Free Jet Turbines." The author states that in the last twenty years larger installations for production of energy through water power have been developed. The basis of these needs and their limitations form the subject matter of the report. Critical speeds, braking

and moments of inertia are considered. A view of the constructional features of the most important newer large turbines with consideration of the ranges of use of various types is included. The second article appeared on pages 601 to 604, inclusive, of the above publication. In the article water supply pumps with and without moving guide wheels and pertinent hydraulic-mechanical synchronous couplings are described. The third article appearing on pages 623 to 631, inclusive, describes the valves, the regulators and appurtenances, the safety devices and automatic controls. Photographs illustrate this report, the text of which is in German.

PB L 81384. KUPFRIAN, WILBUR J. A report on the flexible shaft industry in Germany. (FIAT Final Rept 1127). May 1947. 54 p. Price: Xmeo-$1.50
This report reviews the field of flexible shafting, its manufacture, and principal uses as observed in Germany. Hand-winding and automatic methods of manufacture of both flexible shaft core and casing are included. The more popular types of flexible-shaft machines and the accessories used in connection therewith are also treated. Exhibits include assembly drawings and photographs of shaft assemblies and components, machines, hand-pieces, angle heads, speed changers, winding equipment and principal flexible-shaft accessories. Appendix I contains a list of German personnel interviewed, Appendix II a list of factories visited, and Appendix III a bibliography.

PB L 73948. LANZ, HEINRICH, A.G., MANNHEIM and GEBRUDER BOHRINGER G.M.B.H., GOPPINGEN, GERMANY. Drawings for potato diggers, lathes, planers and hydraulic transmissions. (FIAT Microfilm Reel AX 161, Frames 55727-55796, 57263-57306) 1931-1944. 226 f.
Price: Microfilm-$3.25- Enlargement print-$23.00
This reel consists of sets of drawings as listed below. The individual sets will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $3.25. Please include PB and frame numbers when ordering individual items from this microfilm reel. Legend on drawings is in German.

Frames	Title	Price
55727-55764 PB L 73948	Detail and assembly drawings for high speed lathes. 1937-1944. In German.	$10.50
55765-55779 PB L 73948	Detail and assembly drawings for planers (30" and 40" table width). 1937-1941. In German.	4.00
55780-55787 PB L 73948	Detail and assembly drawings for planers (50" table width). 1931-1938. In German.	2.00
55788-55796 PB L 73948	Detail and assembly drawings for hydraulic transmissions. 1936-1937. In German.	2.00
57263-57306 PB L 73948	Detail drawings for LK40 potato digger covering: (1) the pole frame with and without fore-carriage; and (2) pole frame with automatic lifting device and tractor hitch with safety device. 1934-1941. In German.	4.50

PB L 79246. LIND, LEWIS M. and others. The economic vulnerability of Japan in machinery. First draft. Mar 1941. 60 p. Price: Microfilm-$2.00 - Photostat-$4.00
This prewar report from the Interdepartmental Committee on Machinery for the Office of the Administrator of Export Control recommends that consideration be given to specified classes of machinery, in which trade Japan is economically vulnerable, when and if an embargo on shipments to Japan is contemplated. Effects of trade pressures on Japan are listed. Numerous tables are included.

PB L 73989. LOEWE, LUDWIG, A.G., BERLIN. FKAFS Universal milling machine. (FIAT Microfilm Reel B 372 Frames 893-1426) 1935-1946. 534 f. Price: Microfilm-$6.00 - Enlargement print-$53.50
This milling machine is a redesign and features safety interchangeable gear and index crank, a new type of water drain with a pivoting pan for removal of coolant and chips, and a reduction gear for bench drive. The film contains parts lists, and detail and assembly drawings covering the following units: tailstock clamp, stand, back-stop, bracket, dividing head, electrical equipment, wet milling device, feed, milling spindle, etc. An illustrated pamphlet and lubrication chart are included. In German.

PB L 48421-S. NIESSEN, PAUL F. Amendment to FIAT Final report #951. (Supplement to PB 48421). Jun 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report contains two drawings by the Victor Manufacturing and Gasket Co., one on oil seal diaphregm manufactured by Carl Freudenberg of Weinheim, Germany. The other illustrates various oil-seals manufactured by Carl Freudenberg under the trade name of "Simmering" all embodying the same characteristics. An experimental mold was made and tested and results are given. For abstract of PB 48421, "The German gasket industry," see v. 3, p. 876, this Bibliography.

PB L 74075. OSSBERGER TURBINENFABRIK, WEISSENBURG, GERMANY. Michell-Ossberger hydraulic turbine. (FIAT Microfilm Reel CC 244, Frames 1-82) 1922-1947. 82 f. Price: Microfilm-$1.75 - Enlargement print-$8.50
This film presents information on the development of the Michell-Ossberger free-jet hydraulic turbine and production at the Ossberger plant as follows: Correspondence concerning dismantling of the plant for reparations and brief reports on the firms activities and the economic importance of the turbine, used in small flour mills (in English); an illustrated catalog; reprints and clippings from journals on the efficiency of the machine; copies of certificates from users of the turbine; copies of German and British patents on Banki and Michell hydraulic turbines; and correspondence concerning the Michell-Ossberger patent (in English). Drawings and photographs are included. In German, except where indicated.

PB L 80622. U. S. WAR DEPARTMENT. Heater immersion type for can, corrugated. (Tech Manual 10-702). Jul 1945. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 80623. U. S. WAR DEPARTMENT. Heater: Water, immersion, gasoline operated, tank trailer. Stock no. 65-H-1711. (Tech Manual 10-704). Aug 1945. 6 p. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00 (Available from the Supt of Docs, Washington 25, D. C. 10¢).

PB L 80897. U. S. WAR DEPARTMENT. Lapping machine TL-312/FSM-1. (Tech Manual 11-2685). Jun 1945. 49 p. Price: Microfilm-$1.00 - Photostat-$4.00
This machine is used for intermediate and finish lapping of quartz crystal blanks.

PB L 80628. U. S. WAR DEPARTMENT. Maintenance manual and parts list: Semitrailer, 2-wheel (2DT), refrigerator trailmobile, model TD-42. (Tech Manual 10-1608). Mar 1943. 62 p. Price: Microfilm-$2.00 - Photostat-$5.00

Machinery (contd)

PB L 80633. U. S. WAR DEPARTMENT. Pump, gasoline, portable gasoline engine-driven dispensing capacity 100 GPM. (Tech Manual 10-1134). Aug 1941. 64 p. Price: Microfilm-$2.00 - Photostat-$5.00

PB L 80629. U. S. WAR DEPARTMENT. Refrigeration unit portable (125 cu.ft.), stock no. 66-B-325, specification J.Q.D. no. 1008. (Tech Manual 10-1634). Aug 1944. 265 p. Price: Microfilm-$6.00 - Photostat-$18.00

METALS AND METAL PRODUCTS

*PB L 78264. AITKENHEAD, WILLIAM C. Review of recent German developments in aluminum refining. (FIAT Final Rept 907). Mar 1947. 64 p. Price: Mimeo-$1.75

Operating and proposed aluminum refining processes are based on: (1) Purifying with another metal such as magnesium, mercury, zinc, lead or manganese, (2) oxidation for the removal of magnesium and calcium by chlorine, sulphur or oxygen, (3) volatilization of aluminum in a monovalent state and (4) the three layer electrolytic process. Although most of the processes described in this report were still in the laboratory or pilot plant stage of development, the report should be of value to aluminum metallurgists interested in refining. Sketches, illustrations and charts are included.

*PB L 79629. BRIMELOW, E. I. Interrogation of Dr. G. Messner and Dr. Vosskuhler, Jul 26, 1946. (Precious metals research). (BIOS Interrogation Rept 463). Apr 1947. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00

During the interview the following subjects were discussed: aluminum alloys in German buildings; roofing material; sprayed coatings; hydronalium 18; and extraction of aluminum for secondary alloys.

PB L 3478-S. DEISINGER, W. Production and properties of aluminum sheath for cables. (Supplement to PB 3478, vol. I, p. 264). (FIAT Final Rept 516, Supp.). Jan 1946. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00

In this supplement the following subjects are covered: Disadvantages of lead sheath for cables, discussion of metallic substitutes, description and comparison of the processes for producing aluminum sheath for cables, and properties of aluminum sheath for cables and their effect on the cable art. Photographs, tables and charts are included. This is a translation of an article which appeared in Metallwirtschaft 18 (1939), No. 48, pp. 1-6.

PB L 70404. FORSCHUNGSINSTITUT MANNESMANN RÖHRENWERKE, HUCKINGEN B. DUISBURG. Metallurgical research reports. (FIAT Microfilm Reel W 1, Frames 1-1262) 1932-1938. Price: Microfilm-$6.00 - Enlargement print-$126.50

This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1-18 PB L 70404	Surface defects in Marwe 12 K. steel. January 7, 1937. In German.	$2.00
19-44 PB L 70404	Welding brittleness of St. 46.29 steel. February 24, 1937. In German.	2.50
45-54 PB L 70494	Examination of a hydraulic piston made by "Meer" A.G. January 7, 1937. In German.	1.50
55-73 PB L 70494	Aircraft tubes of the quality 29 L with exterior defects. January 7, 1937. In German.	2.00
74-79 PB L 70494	Manufacture of transformer sheets with low watt-losses. June 11, 1937. In German.	1.50
80-82 PB L 70494	Transformer steel. June 11, 1937. In German.	1.50
83-105 PB L 70494	Investigation of the occurrence of flakes in L 29 steel and their influence on the rolling of tubes. January 11, 1937. In German.	2.50
106-119 PB L 70494	Complaint about V4A-material (stainless steel). January 22, 1937. In German.	1.50
120-133 PB L 70494	Identical with frame Nos. 106-119	1.50
134-143 PB L 70494	Examination of tubes of Marve 17 L steel rejected at Rath. February 8, 1937. In German.	1.50
144-152 PB L 70494	Complaint of the tube rolling mill Coppel, Hilden, concerning cracked cycle frame tubes. February 10, 1937. In German.	1.50
153-166 PB L 70494	Examination of tubes of Marwe 17 L steel of the charges E 4196 and E 4196 with exterior and interior defects. February 18, 1937. In German.	1.50
167-187 PB L 70494	Examination of cracky round billets of the rolling mill H.B.H. (Heinrich Bierwes Hütte). February 20, 1937. In German.	2.50
188-196 PB L 70494	V2AE steel containing 0.5% molybdenum, with exterior and interior defects. February 20, 1937. In German.	1.50
197-207 PB L 70494	V2A-steel tubes for cracking stills. (Determination of grain size according to AASM-specification No.28F). February 22, 1937. In German.	1.50
208-217 PB L 70494	Complaint of the firm of Ja. Zimmer and Zonen, Amsterdam, concerning tubes of the quality St.C. 16.61 steel. February 24, 1937. In German.	1.50
218-241 PB L 70494	Examination of 13 K-steel with flakes. March 4, 1937. In German.	2.50
242-249 PB L 70494	Examination of steel St. 50.11. March 6, 1937. In German.	1.50
250-259 PB L 70494	Examination of annealed precision tubes from steel St. 45.11. March 9, 1937. In German.	1.50
260-267 PB L 70494	Examination of steel St. 50.11; 180 mm square billet. March 12, 1937. In German.	1.50
268-286 PB L 70494	Examination of V2AP-steel tubes for sulfite liquor pre-heaters. March 24, 1937. In German.	2.00
287-291 PB L 70494	Examination of V2AP-steel tubes for sulfite liquor pre-heaters II. March 24, 1937. In German.	1.5

292-306 PB L 70494 — Slag taps (holes) in steel tubes. March 25, 1937. In German. 1.50

307-312 PB L 70494 — Examination of exterior defects on tubes intended for displacer cylinders. April 2, 1937. In German. 1.50

313-319 PB L 70494 — Examination of rejected hollow billets of the department Grillo-Funke. April 3, 1937. In German. 1.50

320-333 PB L 70494 — Examination of prematurely worn-out foundry ladles. April 16, 1937. In German. 1.50

334-353 PB L 70494 — Exterior defects on V&E-steel. April 20, 1937. In German. 2.00

354-365 PB L 70494 — Utilization of used oils. May 5, 1937. In German. 1.50

366-372 PB L 70494 — Examination of defective drawn shells. May 10, 1937. In German. 1.50

373-384 PB L 70494 — Investigation of fire-tubes of a tar boiler. May 11, 1937. In German. 1.50

385-407 PB L 70494 — Examination of unalloyed tubes of cracking stills. May 12, 1937. In German. 2.50

408-415 PB L 70494 — Corrosion tests with steel with and without copper content. May 12, 1937. In German. 1.50

416-436 PB L 70494 — Investigation on the behavior of 17 L-steel under oil-or water-heat-treatment. May 21, 1937. In German. 2.50

437-447 PB L 70494 — Apparatus for dehydrating phenol. May 24, 1937. In German. 1.50

448-453 PB L 70494 — Investigation on square tubes for steam boilers. May 31, 1937. In German. 1.50

454-463 PB L 70494 — Examination of defective steel tubes of FF30 material. June 1, 1937. In German. 1.50

464-494 PB L 70494 — Niessner method for ascertaining oxidic inclusions in steel. June 9, 1937. In German. 3.50

495-504 PB L 70494 — Examination of fire-bricks. June 17, 1937. In German. 1.50

505-514 PB L 70494 — English process to prevent corrosion. June 30, 1937. In German. 1.50

515-521 PB L 70494 — Investigation of tubes of FF30 steels. July 8, 1937. In German. 1.50

522-534 PB L 70494 — Investigation of forging difficulties of the Edelstahlwerk (alloyed steel works) when using hot die steel. July 8, 1937. In German. 1.50

535-550 PB L 70494 — Examination of V&E-steel tubes with interior and exterior defects. July 20, 1937. In German. 2.00

551-566 PB L 70494 — Investigation of the spot test method. August 3, 1937. In German. 2.00

567-587 PB L 70494 — Influence of the structure on creep resistance. September 11, 1937. In German. 2.00

588-606 PB L 70494 — Inspection of tubes of V&E-steel with exterior and interior defects. August 28, 1937. In German. 2.00

607-640 PB L 70494 — Research on internal pressure exerted on smooth grooved tubes. November 23, 1939. In German. 3.50

641-649 PB L 70494 — Difficulties found in breaking unsilicized basic converter steel. September 6, 1937. In German. 1.50

650-658 PB L 70494 — Fatigue bending tests with corrosion of zirconium steel. September 7, 1937. In German. 1.50

659-683 PB L 70494 — Inspection of trial castings for pilger rolls. October 8, 1937. In German. 2.50

684-695 PB L 70494 — Testing an American cracking still tube. October 7, 1937. In German. 1.50

696-700 PB L 70494 — Inspection of defective crucibles. October 10, 1932. In German. 1.50

701-729 PB L 70494 — Reaction of various steels in hydrogen. October 31, 1937. In German. 3.00

730-752 PB L 70494 — Testing fire bricks for the lining of ladles. October 28, 1937. In German. 2.50

753-758 PB L 70494 — Comparison tests taken with core tubes. November 9, 1937. In German. 1.50

759-775 PB L 70494 — Testing moulding sands. November 22, 1937. In German. 2.00

776-792 PB L 70494 — Examination of mortar. November 19, 1937. In German. 2.00

793-794 PB L 70494 — Table containing test data on mortar for coke ovens, steel works and rolling mills. n. d. In German. 1.50

795-834 PB L 70494 — Examination of crushed material. November 22, 1937. In German. 4.00

835-845 PB L 70494 — Torque tubes welded by the Arcaton process. November 8, 1937. In German. 1.50

846-852 PB L 70494 — Inspection of defective tubing steel St 60.11. November 11, 1937. In German. 1.50

853-861 PB L 70494 — Testing an American tube manufactured by resistence-welding. November 12, 1937. In German. 1.50

862-869 PB L 70494 — Inspection of prematurely worn out crucibles. November 22, 1937. In German. 1.50

870-897 PB L 70494 — Tests of silica bricks. November 30, 1937. In German. 3.00

898-906 PB L 70494 — Fatigue bending tests of free-cutting steels. December 4, 1937. In German. 1.50

907-920 PB L 70494 — Examination of the "Ibrizising" process. n. d. In German. 1.50

921-923 PB L 70494 — Tests of copper-clad tubing. February 2, 1938. In German. 1.50

924-928 PB L 70494 — Tests on tubes for cracking stills. February 1, 1938. In German. 1.50

929-944 PB L 70494 — Detection of stresses in work pieces by means of X-rays. Second part: Experimental investigations. June 16, 1938. In German. 2.00

945-954 PB L 70494 — Testing a broken crane hook. February 18, 1938. In German. 1.50

955-961 PB L 70494 — Measuring peak stress loads on notched bars by X-rays. September 23, 1938. In German. 1.50

962-965 PB L 70494 — Testing transformer sheets. September 19, 1938. In German. 1.50

966-973 PB L 70494 — These frames are identical with frame No. 955-961. 1.50

974-977 PB L 70494 — These frames are identical with frame No. 962-965. 1.50

978-984 PB L 70494 — Examination of cracked manhole frames. February 23, 1938. In German. 1.50

985-993 PB L 70494 — Investigation of the premature destruction of a lime kiln. March 8, 1938. In German. 1.50

994-1001 PB L 70494 — Steam pipes which cracked at hot bending into coils. March 9, 1938. In German. 1.50

1002-1008 PB L 70494 — Siemens-Martin (open hearth) steel of the St 50.11 type with internal cracks. March 31, 1938. In German. 1.50

1009-1023 PB L 70494 — Investigation on scrap in the manufacture of hollow billets. March 22, 1938. In German. 1.50

1024-1033 PB L 70494 — Test of hydrogen-resisting pipes. March 23, 1938. In German. 1.50

1034-1039 PB L 70494 — Cast camshaft of American origin. March 16, 1938. In German. 1.50

1040-1045 PB L 70494 — Inspection of coconnut fibre fabric. March 19, 1938. In German. 1.50

1046-1056 PB L 70494 — Welding tests with preheated sheets of ST 52 steel. March 21, 1938. In German. 1.50

1057-1067 PB L 70494 — These frames are identical with Nos. 1046-1056. 1.50

1068-1072 PB L 70494 — Fatigue impact test with steel 52. March 20, 1938. In German. 1.50

1073-1076 PB L 70494 — Diffusion coating of chromium on iron in a salt melt. March 26, 1938. In German. 1.50

1077-1084 PB L 70494 — Inspection of defective pipes of a heat exchanger. March 30, 1938. In German. 1.50

1085-1094 PB L 70494 — Inspection of 4 broken chain hooks. April 7, 1938. In German. 1.50

1095-1101 PB L 70494 — Broken welding samples. Quality inspection for tubular lattice masts. April 13, 1938. In German. 1.50

1102-1111 PB L 70494 — Steam pipes that became cracked at warm bending. April 21, 1938. In German. 1.50

1112-1122 PB L 70494 — Inspection of a propane bottle. April 21, 1938. In German. 1.50

1123-1132 PB L 70494 — Inspection of welded socket pipes with defective welded parts. April 19, 1938? In German. 1.50

1133-1149 PB L 70494 — Inspection of broken tubular boring rods and comparison with such of American origin. April 26, 1938. In German. 2.00

1150-1155 PB L 70494 — Inspection of a defective tube 191/6.5. May 3, 1938. In German. 1.50

1156-1168 PB L 70494 — Impact tensile tests made with steel 13 R. n. d. In German. 1.50

1169-1177 PB L 70494 — Inspection of seamless tubes that cracked while being expanded. May 14, 1938. In German. 1.50

1178-1198 PB L 70494 — Investigation regarding the possibility of using coarse-grain steel for cracking process tubes. May 28, 1938. In German. 2.50

1199-1205 PB L 70494 — Inspection of an American tube for cracking stills. June 13, 1938. In German. 1.50

1206-1212 PB L 70494 — These frames are identical with Frames 1199-1205. 1.50

1213-1239 PB L 70494 — Soldering failures with a double coil tube, the interior coil of which was sprayed with zinc and aluminum. June 16, 1938. In German. 3.00

1240-1246 PB L 70494 — Corrosive pitting on cracking process tubes. June 17, 1938. In German. 1.50

1247-1262 PB L 70494 — Fatigue bending tests with welded joints of steel 47 K. June 30, 1938. In German. 2.00

PB L 70494-S. FORSCHUNGSINSTITUT MANNESMANN RÖHRENWERKE, HUCKINGEN B. DUISBURG. Metallurgical research reports. (FIAT Microfilm Reel W 1. Frames 1-1262, abstract cards) 1932-1938. 110 p. Price: Microfilm-$3.00 - Photostat-$8.00

Brief abstracts of the individual items on the above reel W 1, PB L 70494, prepared by FIAT personnel in Germany.

* PB L 78995. FRARY, FRANCIS C. Dusty lung conditions in the manufacture of pyrotechnic aluminum bronze powder. (FIAT Final Rept 991). Mar 1947. 10 p. Price: Mimeo-$0.25

A study was made covering plant conditions and practices during the war, in two aluminum bronze powder plants producing stamped pyrotechnic ("pyro") powder, to determine their relationship to the occurrence of lung injuries in workmen in this industry. The machinery appeared to be in reasonably good condition, but carelessness on the part of new workmen and their general inferior state of health and nutrition may have contributed to the injuries. The change from a mixture of stearine and stearic acid, as a lubricant in the stamping process, to an "artificial vaseline" may also be involved. The medical and pathological aspects of the problem are being investigated by Capt. M.C.S. Kennedy, under the auspices of FIAT (British). Appendix I gives a list of German personnel interviewed, Appendix II a list of German targets visited, and Appendix III a bibliography.

PB L 52010. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. Chemische berichte Jan. 1942. First meeting of the cooperative group for surface improvement of metals. Jan 1942. 71 p. Price: Microfilm-$2.00 - Photostat-$5.00

For abstract of the above report, see "Chemicals and Allied Products--Miscellaneous Chemicals" in this issue.

PB L 65617. GREAT BRITAIN. MINISTRY OF SUPPLY. DEPARTMENT OF TANK DESIGN. Automatic stud welding for armour and carbon-manganese steel. (Bulletin D/WG/RIA). Apr 1945. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00
This manual describes three systems for automatic stud welding. Twenty-one photographs and sketches showing various welding guns and equipment are included.

PB L 3478-S-2. HANFF, F. and others. Aluminum as the structural material for cable sheaths. (Suppement to PB 3478, vol. 1, p. 264). (FIAT Final Rept 516, Supp.). Jan 1946. 29 p. Price: Microfilm-$1.00 - Photostat-$2.00
In this supplement the following subjects are discussed: 1) The problem of preliminary tests; 2) the execution of extrusion sheathing tests; 3) properties of aluminum sheath for cables and the cables sheathed with aluminum; 4) structural effects in the cable field; and 5) introduction of the process in production. Tables, photographs and sketches are included. This is a translation of an article which appeared in the Siemens-Zeitschrift 19 (1934), No. 8, p. 357.

PB L 79252. JANSSEN, W. A. and others. The economic vulnerability of Japan in aluminum. First draft. n. d. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
Japan did not appear to be injured, as far as its supply of aluminum was concerned, by the prohibition of exports of aluminum materials from the United States under Presidential Proclamation 2413, dated July 2, 1940. It had ample sources of raw materials and the Japanese aluminum industry had made rapid strides. This report, by the Interdepartmental Committee on Non-ferrous Metals and Manufactures, was prepared prior to the war.

PB L 79248. JANSSEN, W. A. and others. The economic vulnerability of Japan in antimony, mercury, molybdenum, platinum, tin and nickel. First draft. n. d. 42 p. Price: Microfilm-$1.00 - Photostat-$3.00
The report, prepared by the Interdepartmental Committee on Non-ferrous Metals and Manufactures prior to the outbreak of war, covers the movement of antimony, mercury, molybdenum, platinum, tin and nickel and their products from the United States to Japan. The report is intended to point out (1) what effect the prohibition of the exportation of these products will have on the economic vulnerability of Japan and (2) the effect of such restrictions upon the United States economy. Tables present available data on Japanese sources of these metals.

PB L 79247. JANSSEN, W. A. and others. The economic vulnerability of Japan in columbium, niobium, tantalum, thorium, cerium, caesium, sodium and potassium. First draft. n. d. 10 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report was prepared for the Office of the Administrator of Export Control by the Interdepartmental Committee on Non-ferrous Metals and Manufactures, prior to Pearl Harbor. Very little statistical information was available, but strict export controls were recommended on the subject metals.

PB L 79250. JANSSEN, W. A. and others. The economic vulnerability of Japan in copper. First draft. n. d. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00
This prewar report covers the movement of copper and copper products from the United States to Japan. The effect of export restrictions of these products on Japanese economic existence and upon United States economy is pointed out. There are also covered Japanese copper resources and the best information available on Japan's imports and exports of copper and copper products. Nine tables are included.

PB L 74249. JANSSEN, W. A. and others. The economic vulnerability of Japan in lead. First draft. n. d. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
The report covers the movement of lead and lead products from the United States to Japan prior to the outbreak of war. General information on Japan's imports and exports of lead, together with the effect the prohibition of the exportation of these products on Japanese and United States economy are given. Prepared by the Interdepartmental Committee on Non-ferrous Metals and Manufactures.

* PB L 78996. KREBS, H. L. German methods for the manufacture of iron powder cores. (FIAT Final Rept [illegible]). Apr 1947. 15 p. Price: Mimeo-$0.50
This report deals with the manufacture of iron powder cores by the method practiced by several German companies. Manufacturing processes are given along with a list of the grades of carbonyl iron powder most generally used, their chemical analyses, electrical constants, and the electrical properties of the finished cores. Appendix 5 contains two tables: I. G. Farbenindustrie list of carbonyl iron powders and their characteristics.

* PB L 81284. MCCULLOCH, WILLIAM W. The "C" process of making molds and cores for foundry use. (FIAT Final Rept 1168). May 1947. 7 p. Price: Mimeo-$0.25
This report describes a new process for making sand molds and cores which are suitable for the production of precision castings in a wide variety of metals. The process is unique in its use of a plastic component which, under application of heat, bonds the sand grains together and forms a mold or core having unusual surface smoothness, high gas permeability and dimensional stability. The process is especially suitable for the production of steel castings with very thin sections. Appendix I contains a list of German personnel interviewed, Appendix II photographs of various molds, pattern plate, cores and castings.

PB L 70367. SIEMENS & HALSKE, BERLIN-SIEMENSSTADT, GERMANY. Metallurgical reports or magnesium, aluminum and other metals. (FIAT Microfilm Reel E-263, Frames 1594-1980). 1934-1941. 386 f. Price: Microfilm-$4.75 - Enlargement print-$39.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1594-1596 PB L 70367	Operational directions for the "SEOMAG-d Process", an electrolytic process to make magnesium corrosion resistant. n.d. In German.	$1.5
1597-1598 PB L 70367	Operational directions for the "SEOMAG-G Process" a Siemens & Halske process for making light metals corrosion resistant. n.d. In German.	1.5
1599-1606 PB L 70367	Diminishing the size of "Elektron" blanks to true gauge by pickling. Sept 19, 1941. In German.	1.5
1607-1612 PB L 70367	Colorimetric rapid determination of the fluorine content in the analysis of the corrosion proof process of Siemens & Halske, called the "Seomag"-process. Spet 24, 1940. In German.	1.5
1613-1624 PB L 70367	Electrolytic production of corrosion resistent surfaces on light-metal by means of alkaline electrolytes. Jun 20, 1940. In German.	1.5
1625-1628 PB L 70367	Protection of "Elektron" metal surfaces. Oct 8, 1940. In German.	1.5

1629-1638 PB L 70367 — Testing galvanic and other protective coatings on iron in various corrosive media. Apr 30, 1941. In German. 1.50

1639-1644 PB L 70367 — Anodic polishing of aluminum according to Jacquet, Pullen, and Alzak. Dec 10, 1940. In German. 1.50

1645-1659 PB L 70367 — Spectroscopic determination of the thickness of layers. Jul 24, 1940. In German. 1.50

1660-1669 PB L 70367 — Identical with frame numbers 1629-1638. 1.50

1670-1677 PB L 70367 — Corrosion tests on electrolytically oxidized "Dural" (Al-Mg-Si alloy). Feb 7, 1941. In German. 1.50

1678-1693 PB L 70367 — Reduction of stress corrosion on light metals by anodic oxidation. Jan 6, 1941. In German. 2.00

1694-1698 PB L 70367 — Production of a gold color on electrolytically oxidized aluminum. Dec 2, 1937. In German. 1.50

1699-1706 PB L 70367 — Corrosion tests of electrolytically oxidized "Silumin" ingots and sand-cast bars. Oct 28, 1934. In German. 1.50

1707-1718 PB L 70367 — Electrolytic reprocessing of sulfuric acid iron pickling baths for re-use in the pickling process. Nov 18, 1937. In German. 1.50

1719-1724 PB L 70367 — Determination of copper in ammoniac electrolytes. Nov 8, 1937. In German. 1.50

1725-1772 PB L 70367 — Electrolytic production of zinc powder. Jun 30, 1937. In German. 5.00

1773-1780 PB L 70367 — Gravimetric determination of fluosilicic acid in chromium plating baths. Sept 20, 1939. In German. 1.50

1781-1795 PB L 70367 — Industrial colorimeter for the rapid determination of the total content of fluorine in chromium-plating baths. Sept 18, 1939. In German. 1.50

1796-1809 PB L 70367 — Examination of macro-pores in chromium layers. Feb 9, 1939. In German. 1.50

1810-1816 PB L 70367 — Use of thallium as anti-corrosive agent. Sept 27, 1940. In German. 1.50

1817-1836 PB L 70367 — Galvanic silver-plating, using a new luster-imparting agent. Jul 18, 1939. In German. 2.00

1837-1840 PB L 70367 — Depolarization electrodes as depolarizers at high current density. Sept 4, 1939. In German. 1.50

1841-1849 PB L 70367 — Measuring the hardness of chromium layers. Sept 29, 1938. In German. 1.50

1850-1859 PB L 70367 — Bath admixture for the production of electrolytic copper deposits of homogeneous hardness and ductility for making matrices of phonograph records. Aug 15, 1939. In German. 1.50

1860-1872 PB L 70367 — Form of precipitation and penetration in acid copper baths. Jul 22, 1939. In German. 1.50

1873-1919 PB L 70367 — Production of Caro's acid (Permonosulfuric acid), H_2SO_5. Jun 3, 1937. In German. 5.00

1920-1925 PB L 70367 — Electrolytic oxidation of aluminum zipper parts for the purpose of surface protection. Dec 8, 1939. In German. 1.50

1926-1933 PB L 70367 — Production of brown-colored oxide layers on aluminum in baths containing arsenic. Dec 7, 1939. In German. 1.50

1934-1956 PB L 70367 — The lustrous electrolytic oxidation of aluminum and its alloys. Jan 31, 1938. In German. 2.50

1957-1980 PB L 70367 — Comparison between admixtures of sulfuric acid and fluosilicic acid in galvanic hard chromium-plating baths. Sept 23, 1938. In German. 2.50

PB L 70367-S. SIEMENS & HALSKE, BERLIN-SIEMENSSTADT, GERMANY. Metallurgical reports on magnesium, aluminum and other metals. (FIAT Microfilm Reel B 263, Frames 1594-1980, abstract cards). 1934-1941. 50 p.
Price: Microfilm-$1.00 - Photostat-$4.00
Brief abstracts of the individual items on the above reel B 263, PB 70367, prepared by FIAT personnel in Germany.

PB L 26032-R3. U. S. AERONAUTICAL BOARD. Cone - union. (Revision of PB 26032, v. 3, p. 591) (Army-Navy Aeronautical Standard AN 800, rev.) May 1947.
1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26025-R2. U. S. AERONAUTICAL BOARD. Coupling - union (brazing). (Revision of PB 26025, v. 3, p. 591) (Army-Navy Aeronautical Standard AN 785, rev.) May 1947.
1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26028-R2. U. S. AERONAUTICAL BOARD. Elbow - union. (Revision of PB 26028, v. 3, p. 591) (Army-Navy Aeronautical Standard AN 790, rev.) May 1947.
1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26029-R2. U. S. AERONAUTICAL BOARD. Elbow - union 45°. (Revision of PB 26029, v. 3, p. 591) (Army-Navy Aeronautical Standard AN 791, rev.) May 1947.
1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 21465-A. U. S. AERONAUTICAL BOARD. Knobs; pointer. (For basic specification see PB 21465, vol. 1, p. 1282). (Army-Navy Aeronautical Specification AN-K-3a, Amendment 1). Mar 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26023-R. U. S. AERONAUTICAL BOARD. Nipple - union. (Revision of PB 26023). (Army-Navy Aeronautical Standard AN 780, rev.) May 1947. 1 p. Price: Microfilm-$1.00-Photostat-$1.00
For PB 26023, see v. 3, p. 591.

PB L 26037-R3. U. S. AERONAUTICAL BOARD. Nut - union. (Revision of PB 26037, v. 3, p. 591). (Army-Navy Aeronautical Standard AN 805, rev.) May 1947.
1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 26031-R. U. S. AERONAUTICAL BOARD. Tee - union. (Revision of PB 26031). (Army-Navy Aeronautical Standard AN 795, rev.) May 1947. 1 p. Price: Microfilm-$1.00-Photostat-$1.00
For PB 26031, see v. 3, p. 591.

PB L 21754-A. U. S. AERONAUTICAL BOARD. Tubing: brass seamless, (with amendment no. 1, May 1947). (Army-Navy Aeronautical Specification AN-T-70). Mar 1945. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
For PB 21754, see v. 1, p. 1283.

PB L 26761-R. U. S. AERONAUTICAL BOARD. Valve installation-hydraulic bleeder (standard dimensions for). (Revision of PB 26761). (Army-Navy Aeronautical Design Standard AND 10067, rev.) May 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00
For PB 26761, see v. 3, p. 660.

PB L 80794. U. S. AERONAUTICAL BOARD. Welding: aluminum and magnesium alloys, spot and seam. (Army-Navy Aeronautical Specification AN-W-30). Jan 1947. 26 p. Price: Microfilm-$1.00 - Photostat-$2.00

PB L 80840. U. S. BUREAU OF AERONAUTICS. Bolts and nuts: magnetic particle inspection of. (NAVAER Specification 43B16). Mar 1947. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 70151 VEREINIGTE DEUTSCHE METALLWERKE, FRANKFURT/MAIN-HEDDERNHEIM. Metallurgical reports on bearing metals and various alloys. (FIAT Microfilm Reel J-12, frames 4-902.) 1938-1945. 898 f. Price: Microfilm - $6.00 - Enlargement Print - $90.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Titles	Price
4-7 PB L 70151	Principal properties of different plain bearings. Feb 1, 1944. In German.	$1.50
8-27 PB L 70151	Comparison of roller bearings with plain bearings. Nov 19, 1943. In German.	2.00
28-46 PB L 70151	Rules for using short plain bearings. Jul 20, 1944. In German.	2.00
47-59 PB L 70151	Coated bearings. Jul 20, 1944. In German.	1.50
60-110 PB L 70151	Cast and sintered iron, compound, light metal and zinc plain bearings. Jul 20, 1944. In German.	5.50
111-115 PB L 70151	Suitable lubrication of plain bearings. In German.	1.50
116-122 PB L 70151	Heavy duty plain bearings instead of roller bearings. In German.	1.50
123-131 PB L 70151	Roller bearings with pressed races. Jul 20, 1944. In German.	1.50
132-145 PB L 70151	Plain bearings as substitute for roller bearings. In German.	1.50
146-150 PB L 70151	Self-lubricating plain bearings. In German.	1.50
151-193 PB L 70151	List of ball-bearings. Feb 1944. In German.	4.50
194-213 PB L 70151	Plain bearings made from butt welded tubes. In German.	2.00
214-229 PB L 70151	Theory of plain bearings and their materials. Apr 1942. In German	2.00
230-242 PB L 70151	Properties of metallic plain bearing materials. Apr 11, 1944. In German.	1.50
243-265 PB L 70151	Alloys for railroad bearing bushings. In German.	2.50
266-293 PB L 70151	Friction properties of bearing alloys on a lead base. Jul 3, 1941. In German.	3.00
294-301 PB L 70151	Bearing metals. In German.	1.50
302-309 PB L 70151	Progress in development of hardened lead bearing metals. 1943. In German.	1.50
310-316 PB L 70151	Working processes for manufacturing and processing plain bearings. Jul 15, 1939. In German.	1.50
317-321 PB L 70151	Manfacture of bearings for aircraft engines by centrifugal casting. Jun 12, 1944. In German.	1.50
322-349 PB L 70151	Friction properties of bearing alloys on a lead base. Jul 3, 1941. In German.	2.00
350-401 PB L 70151	Operating tests with sintered materials. Sep 26, 1940. In German.	5.50
402-405 PB L 70151	Key in tabular form for the immediate determination of suitability of bearing materials. Jan 1942. In German.	1.50
406-427 PB L 70151	Bushings of highly aluminumferous zinc alloys. Dec 18, 1944. In German.	2.50
428-430 PB L 70151	Directions for the casting of zinc plain bearing materials. Nov, 1944. In German.	1.50
431 PB L 70151	Wastes in processing. Oct. 1944. In German.	1.50
432-436 PB L 70151	Machining of zinc plain bearing materials. Sep 1944. In German.	1.50
437-464 PB L 70151	Bearings of synthetic resin pressed materials. Nov 8, 1939. In German.	3.00
465-470 PB L 70151	Testing of sprayed bronze compound bearings. Mar 27, 1942. In German.	1.50
471-473 PB L 70151	Bearing construction for avoiding groove formation caused by impurities. Mar 31, 1938. In German.	1.50
474-475 PB L 70151	Solid aluminum bearing metal. Aug 13, 1945. In German.	1.50
476-479 PB L 70151	Manufacture of centrifuged white metal bearings. Dec 23, 1940. In German.	1.50
480-493 PB L 70151	Casting bearing shells with a bearing alloy free of tin. Dec 23, 1942. In German.	1.50

Metals

494-497
PB L 70

498-507
PB L 70

508-521
PB L 70

522-536
PB L 70

537-542
PB L 70

543
PB L 70

544-548
PB L 70

549-553
PB L 70

554-559
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560-568
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569-570
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571-574
PB L 70

575-603
PB L 70

604-613
PB L 70

614-619
PB L 70

620-625
PB L 70

626-633
PB L 70

634-646
PB L 70

647-651
PB L 70

652-699
PB L 70

700-706
PB L 70

707
PB L 70

708-709
PB L 70

710-715
PB L 70

716-723
PB L 70

724
PB L 70

725-731

494-497 PB L 70151 — Device for casting bearing shells according to the centrifugal casting process. In German. 1.50

498-507 PB L 70151 — Test of running properties of sintered iron bearings having a steel casting. Sep 10, 1941. In German. 1.50

508-521 PB L 70151 — Notes concerning metal compositions. In German. 1.50

522-536 PB L 70151 — Summary of the alloys produced at Heddernheim. Jun 25, 1945. In German. 1.50

537-542 PB L 70151 — Tolerances for the analysis of bronze and light metals. In German. 1.50

543 PB L 70151 — Key table for the immediate determination of suitable bearing materials. Jan 1942. In German. 1.50

544-548 PB L 70151 — Aviation standards for light metal heavy metal and special brass. 1942 and 1943. In German. 1.50

549-553 PB L 70151 — Standard tables for aluminum alloys. Jun and Dec 1941. In German. 1.50

554-559 PB L 70151 — Short list of aluminum alloys. Nov. 1942. In German. 1.50

560-568 PB L 70151 — German limitation orders for copper alloys. Feb. 1943. In German. 1.50

569-570 PB L 70151 — Bearing brass for compound metal casting. Jun 30 1941. In German. 1.50

571-574 PB L 70151 — Weldability of copper alloys on steel. Aug 21, 1942. In German. 1.50

575-603 PB L 70151 — Summary of alloys of all kinds, 1941 and 1942. In German. 3.00

604-613 PB L 70151 — Forgeable aluminum alloys. Jul 1943. In German. 1.50

614-619 PB L 70151 — Short list of aluminum alloys. 1942 and 1943. In German. 1.50

620-625 PB L 70151 — German standards: Magnesium alloys. Nov 1943. In German. 1.50

626-633 PB L 70151 — Light metal alloys. In German. 1.50

634-646 PB L 70151 — Standard alloys of the German aluminum smelteries. In German. 1.50

647-651 PB L 70151 — File-notes concerning compositions of alloys. 1941. In German. 1.50

652-699 PB L 70151 — Compilation of English, American, and Russian aluminum standard units. Sep 25, 1945. In German. 5.00

700-706 PB L 70151 — Copper alloys. Feb 1943. In German. 1.50

707 PB L 70151 — List of metal classes. Nov 23, 1944. In German. 1.50

708-709 PB L 70151 — Copper alloys for army and navy material. Oct 1943. In German. 1.50

710-715 PB L 70151 — Nickel, cobalt and their alloys. Jan 1944. In German. 1.50

716-723 PB L 70151 — Lead, tin and their alloys. May 1944. In German. 1.50

724 PB L 70151 — Limiting the use of alloys. Oct 20, 1943. In German. 1.50

725-731 PB L 70151 — Copper alloys. Feb 1943. In German. 1.50

732-742 PB L 70151 — Copper alloys. May 1943. In German. 1.50

743-750 PB L 70151 — Compositions of copper alloys. In German. 1.50

751-759 PB L 70151 — Zinc alloys. May 1944. In German. 1.50

760-766 PB L 70151 — List of permitted zinc and zinc alloys. In German. 1.50

767-775 PB L 70151 — Composition of zinc alloys. 1940 - 1945. In German. 1.50

776-789 PB L 70151 — Hardness test of metals. In German. 1.50

790-792 PB L 70151 — Interior pressure testing. Oct 1930. In German. 1.50

793 PB L 70151 — Hardness test with initial loading. Jul 1931. In German. 1.50

794-824 PB L 70151 — Tables of figures of hardness testing methods. In German. 3.50

825-837 PB L 70151 — Compound metal casting, copper alloy-steel. 1941. In German. 1.50

838-902 PB L 70151 — Copper-plated metals. 1942. In German. 6.50

PB L 70151-8 VEREINIGTE DEUTSCHE METALLWERKE, FRANKFURT/MAIN-HEDDERNHEIM. Metallurgical reports on bearing metals and various alloys. (FIAT Microfilm Reel J-12, Frames 4-902, abstract cards.) 1938-1945. 78 p. Prices: Microfilm -$2.00 - Photostat - $6.00
Brief abstracts of the individual items on the above reel J-12, PB 70151, prepared by FIAT personnel in Germany.

PB L 73432. VEREINIGTE LEICHTMETALLWERKE, HANNOVER/LINDEN, GERMANY. Experiment reports on light metal alloys. (FIAT Microfilm Reel N 23, Frames 4046-4863) 1943-1946. 818 f. Price: Microfilm-$6.00 - Enlargement print-$82.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
4046-4057 PB L 73432	See frame numbers 4067-4083.	$1.50
4058-4066 PB L 73432	Comparison of various degassing agents for aluminum metals. Sept 6, 1943. In German.	1.50
4067-4083 4046-4057 PB L 73432	Conical mold and water cast bars. Sept 17, 1943. In German.	2.00
4084-4086 PB L 73432	Examination of patent K 150 057 (sulfur treatment of aluminum). Sept 24, 1943. In German.	1.50
4087-4092 PB L 73432	Experiments aimed at the utilization of chips of magnesium and aluminum alloys by hot pressing. Oct 4, 1943. In German.	1.50
4093-4115 PB L 73432	Charge of crude metals in the melting and refining processes. Nov 8, 1943. In German.	2.50
4116-4124 PB L 73432	Notched bar-toughness of "KS-Seewasser" (Seawater-resistant Al alloy of the Al-Mg-Si series) at low temperatures. Oct 9, 1943. In German.	1.50

4125-4130 PB L 73432 — Strength of Al-Mg-Mn alloy ("KS-Seewasser") at low temperatures. Nov 26, 1944. In German. 1.50

4131-4168 PB L 73432 — Phenomena in the structure and x-ray photograph of alloy 3501 (Mg-Al-Zn alloy). Nov 1, 1944. In German. 4.00

4169-4173 PB L 73432 — Solution annealing experiments on "Magnewin" water cast bars. (Mg-Al-Zn alloy). Nov 3, 1943. In German. 1.50

4174-4193 PB L 73432 — Chamfering capacity of various alloys. Nov 4, 1943. In German. 2.00

4194-4209 PB L 73432 — Influence of iron and nickel on the appearance of needles in alloy 32 (Al-Mg-Si-Cu alloy). Nov 24, 1943. In German. 2.00

4210-4219 PB L 73432 — Decomposition of the mixed crystal of the aircraft material 3510 (Mg-Al-Zn alloy). Sept 25, 1946. In German. 1.50

4220-4231 PB L 73432 — Soft annealing of the Al-Mg alloy 35 in dependence on the degree of rolling. Sept 22, 1944. In German. 1.50

4232-4264 PB L 73432 — Influence of the different deformation grades (degree of passing) on the technological properties during plate and band production from the alloy 17/30 (Al-Mg-Cu alloy). Dec 1, 1943. In German. 3.50

4265-4268 PB L 73432 — Determination of the superheating temperatures of "Constructal" sheets 20/42 and 20/53 (Al-Zn-Mg alloy). Dec 6, 1943. In German. 1.50

4269-4278 PB L 73432 — Cupping sheets from an aluminum-copper-magnesium alloy with 2% copper. Dec 1, 1943. In German. 1.50

4279-4292 PB L 73432 — Properties of gradually quenched "Constructal" sheets (Al-Zn-Mg alloy) 20/42 immediately after quenching. Dec 6, 1943. In German. 1.50

4293-4303 PB L 73432 — Strength properties of a "Constructal"-20/53 flat rod (Al-Zn-Mg-alloy) (flange cover plate 230 x 23 mm) at different tempering conditions. Dec 6, 1943. In German. 1.50

4304-4311 PB L 73432 — Determination of the superheating temperature of "Constructal" sheets 20/32 (Al-Zn-Mg alloy). Dec 21, 1943. In German. 1.50

4312-4348 PB L 73432 — Age-hardening of Cu 25 (Al-Mn-Mg alloy with 2.5% copper). Jul 31, 1944. In German. 4.00

4349-4361 PB L 73432 — Investigation of some conical round bars of "Constructal" (Al-Zn-Mg alloy) produced on the forging roll. Dec 21, 1943. In German. 1.50

4362-4381 PB L 73432 — Investigation of the casting structures of continuously cast pipes from the Al-Cu-Mg alloy 17/30. Feb 4, 1944. In German. 2.00

4382-4400 PB L 73432 — Marking of the degree of fineness of the casting structures of Mg-Al-Zn alloys. Feb 3, 1944. In German. 2.00

4401-4413 PB L 73432 — Strength of water cast bars and die castings produced directly from them. Jan 15, 1944. In German. 1.50

4414-4423 PB L 73432 — Overheated and not overheated aluminum. Dec 30, 1943. In German. 1.50

4424-4464 PB L 73432 — Influence of manufacturing conditions on the double wedge test behavior and grain size distribution of Duralumin sheets (Al-Cu-Mn-Mg alloys). Jan 10, 1944. In German. 4.50

4465-4481 PB L 73432 — Vapor pressure of liquid aluminum, dissociation pressure of aluminum oxide. Jan 21, 1944. In German. 2.00

4482-4499 PB L 73432 — Formation of pores and blisters; influence of the composition. Jan 21, 1944. In German. 2.00

4500-4507 PB L 73432 — Influence of homogenizing of a casting sample of alloy 17/30 (Al-Cu-Mn alloy) on the cell size. n.d. In German. 1.50

4508-4521 PB L 73432 — Strength values of 17/30 sheets (Al-Cu-Mn alloy) after age hardening at 50°C. Feb 21, 1944. In German. 1.50

4522-4528 PB L 73432 — Overheating damages during the homogenizing of "Magnewin" (Mg-Al-Zn alloy). Feb 18, 1944. In German. 1.50

4529-4555 PB L 73432 — Adhesive strength of light metal claddings on steel. Mar 11, 1944. In German. 3.00

4556-4573 PB L 73432 — Regeneration and stress corrosion of "Constructal" plates 20/42 and 20/53 (Al-Zn-Mg alloy). Mar 15, 1944. In German. 2.00

4574-4584 PB L 73432 — Stress corrosion behavior and strength properties of highly alloyed "Constructal" profiles with stabilization by an application of quenching in stages. Mar 17, 1944. In German. 1.50

4585-4608 PB L 73432 — Influencing the hot notched bar toughness of Cu 30 (Al-Mg alloy) with about 3% Cu) by a refinement and an addition of alloys. Mar 15, 1944. In German. 2.50

4609-4624 PB L 73432 — Investigation of corrosion on samples of "Constructal" (Al-Zn-Mg alloy). Mar 14, 1944. In German. 1.50

4625-4629 PB L 73432 — The effect of shortened annealing on the strength properties with a second tempering. Mar 18, 1944. In German. 1.50

4630-4642 PB L 73432 — A new method for the determination of gases dissolved in aluminum. Mar 23, 1944. In German. 1.50

4643-4650 PB L 73432 — Degassing of aluminum by passing through ringing gas. Apr 2, 1944. In German. 1.50

4651-4659 PB L 73432 — Structure and tendency to overheating of alloy 83 (Al-Zn-Mg alloy). Apr 13, 1944. In German. 1.50

4660-4667 PB L 73432 — Fatigue strength of preliminary pressed and subsequently forged, and cast-forged propeller blades. May 3, 1944. In German. 1.50

4668-4671 PB L 73432 — Removal of alloy elements by salt bath annealing. Apr 22, 1944. In German. 1.50

4672-4680 PB L 73432 — The influence on the structure of pressed water cast bars from pure aluminum Al 99.5. Apr 22, 1944. In German. 1.50

4681-4692 PB L 73432	Method of evaluating chemical analyses in the factory. Mar 27, 1944. In German.	1.50
4693-4699 PB L 73432	Determination of lattice constants on Pb-Al alloys. May 2, 1944. In German.	1.50
4700-4711 PB L 73432	Contribution to the phase diagram lead-aluminum. May 3, Aug 7. 1944. In German.	1.50
4712-4735 PB L 73432	Hot notched-bar toughness of spar flange plates from alloy 3515 (Mg-Zn-Al alloy). May 4, 1944. In German.	2.50
4736-4772 PB L 73432	Comparative investigation on 3515 pressed bars of different casting methods. (Mg-Zn-Al alloy). May 4, 1944. In German.	4.00
4773-4826 PB L 73432	Influence of different alloy contents on metallurgical and technological properties of the Al-Mg-Mn type. May 18, 1944. In German.	5.50
4827-4848 PB L 73432	Polarographic determination of zinc and manganese in magnesium alloys. May 12, 1944. In German.	2.50
4849-4863 PB L 73432	Age hardening condition of casted material. May 10, 1944. In German.	1.50

PB L 73432-S. VEREINIGTE LEICHTMETALLWERKE, HANNOVER/LINDEN, GERMANY. Experiment reports on light metal alloys. (FIAT Microfilm Reel N 23, Frames 4046-4863, abstract cards). 1943-1946. 72 p.
Price: Microfilm-$2.00 - Photostat-$5.00
Brief abstracts of the individual items on the above reel N 23, PB 73432, prepared by FIAT personnel in Germany.

PB L 73483. VERSUCHSANSTALT DEUTSCHE RÖHRENWERKE A.G., MÜHLHEIM-RUHR. Metallurgical processes with metals and alloys. (FIAT Microfilm Reel L 11, Frames 1-980) 1940-1945. 980 f. Price: Microfilm-$6.00 - Enlargement print-$98.00
This reel was prepared by FIAT investigators in Germany. Individual items are listed below and will be available as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames:	Title	Price
1-10; 15-33; 36-46; 257-267; 276-277; 279; 282-290; 292-302; 311-331; 333-339; 341-360; 520-523; 525-529; 531-547; 728-731; 733-742; 749-800; 836-837. PB L 73483	Plating materials on steel. Feb 1940-Sep 1942. In German.	$22.00
11-14; 34-35; 256; 278; 281; 291; 332; 340; 524; 530; 732; 743-748. PB L 73483	Carbonyl nickel. Feb 1940-Apr 1942. In German.	2.50
15-33 PB L 73483	See frames 1-10.	
34-34 PB L 73483	See frames 11-14.	
36-46 PB L 73483	See frames 1-10.	
47-50 PB L 73483	Remelted zinc. Jul 26, 1940. In German.	1.50
51-190; 922-930. PB L 73483	Tests on drum materials. (Rolls, cylinders). May 3, 1940-Nov 5, 1942. In German.	15.00
191-255; 824; 916; 554-621. PB L 73483	Tests of tube welds. Aug 13, 1940-Mar 1944. In German.	14.00
256 PB L 73483	See frames 11-14.	
257-267 PB L 73483	See frames 1-10.	
268-275 PB L 73483	Adhesion of bearing metals on copper plated sheet metals. Nov 28, 1940. In German.	1.50
276-277 PB L 73483	See frames 1-10.	
278 PB L 73483	See frames 11-14.	
279 PB L 73483	See frames 1-10.	
280 PB L 73483	Testing of a chromium-molybdenum steel. Dec 17, 1946. In German.	1.50
281 PB L 73483	See frames 11-14.	
282-290 PB L 73483	See frames 1-10.	
291 PB L 73483	See frames 11-14.	
292-302 PB L 73483	See frames 1-10.	
303-310 PB L 73483	Annealing breaking stress tests of steel. Dec 20, 1940. In German.	1.50
311-331 PB L 73483	See frames 1-10.	
332 PB L 73483	See frames 11-14.	
333-339 PB L 73483	See frames 1-10.	
340 PB L 73483	See frames 11-14.	
341-360 PB L 73483	See frames 1-10.	
361-362 PB L 73483	Leaks in a galvanizing boiler. Jan 31, 1941. In German.	1.50
363 PB L 73483	Investigation of lead slurry. Mar 6, 1941. In German.	1.50
364-373 PB L 73483	Destruction of iron sheets in the zinc bath. Feb 1941-Nov 1944. In German.	1.50
374-457 PB L 73483	Tests on steel strips. Jan 1941-Oct 1944. In German.	8.50
458-461; 466-479; 490-491. PB L 73483	Steel caps (U-shaped ends) for double coils in locomotives. Jul 1941-Dec 1942. In German.	2.00
462-465; 480-489; 492-502;	Test of various steel tubes. Jul 1941-Dec 1944. In	

504-505; 917-921. PB L 73483 — German. 3.50

466-479 PB L 73483 — See frames 458-461.

480-489 PB L 73483 — See frames 462-465.

490-491 PB L 73483 — See frames 458-461.

492-502 PB L 73483 — See frames 462-465.

503 PB L 73483 — Superheater caps. Aug 23, 1944. In German. 1.50

504-505 PB L 73483 — See frames 462-465.

506-519 PB L 73483 — Structure investigations of steel drums. Mar 1941-May 1941. In German. 1.50

520-523 PB L 73483 — See frames 1-10.

524 PB L 73483 — See frames 11-14.

525-529 PB L 73483 — See frames 1-10.

530 PB L 73483 — See frames 11-14.

531-547 PB L 73483 — See frames 1-10.

548-553 PB L 73483 — Tests of tubes of alloy steel with low percentage of chromium and molybdenum. May 23, 1941. In German. 1.50

554-621 PB L 73483 — See frames 191-255.

622-627 PB L 73483 — Replacement of open hearth steel by Thomas iron. Apr 22, 1941. In German. 1.50

628-633 PB L 73483 — Welded tubes from Thomas steel. Jul 25, 1941. In German. 1.50

634-650 PB L 73483 — Comparative tests between Thomas steel with a low percentage of nitrogen and Siemens-Martin steel sheets. May 15, 1941. In German. 2.00

651-673 PB L 73483 — Thomas tubes, manufactured according to the reciprocating or "Mannesmann" rolling process. May 1941-Jun 1941. In German. 2.50

674-681 PB L 73483 — Thomas steel tubes with internal defects. Sep 1941-Dec 1941. In German. 1.50

682-685; 690-694. PB L 73483 — Tests on Thomas material. Feb 1942-Feb 1943. In German. 1.50

686-689 PB L 73483 — Tempering of welded tubes. Jun 19, 1942. In German. 1.50

690-694 PB L 73483 — See frames 682-685.

695-698 PB L 73483 — Tests of welds on tubes made of Thomas steel. Mar 3, 1943. In German. 1.50

699-700 PB L 73483 — Defective tube pieces of Thomas steel. Mar 12, 1943. In German. 1.50

701-702 PB L 73483 — Testing of a defective ring and a defective welded plate of Thomas steel. Mar 4, 1943-Jul 27, 1943. In German. 1.50

703-727 PB L 73483 — New experiences with strip, sheet metals, and tubes of Thomas steel. n.d. In German. 2.50

728-731 PB L 73483 — See frames 1-10.

732 PB L 73483 — See frames 11-14.

733-742 PB L 73483 — See frames 1-10.

743-748 PB L 73483 — See frames 11-14.

749-800 PB L 73483 — See frames 1-10.

801-802 PB L 73483 — Experiments with welding copper on steel. Jan 21, 1943. In German. 1.50

803-804 PB L 73483 — Welding experiments with "Thermanit" electrodes. Mar 23, 1943. In German. 1.50

805-808 PB L 73483 — Tests with firebox plates. May-Aug 1944. In German. 1.50

809-915; 825-833 PB L 73483 — Welding experiments with variable loads for steel tubes. Dec 1941-Oct 1942. In German. 2.00

816-823 PB L 73483 — Investigations of defective tube weldings of various steels. Mar 1942-Nov 1943. In German. 1.50

824 PB L 73483 — See frames 191-255.

825-833 PB L 73483 — See frames 809-815.

834-835 PB L 73483 — Cutting operations with an automatic welding machine. Jan 18, 1943. In German. 1.50

836-837 PB L 73483 — See frames 1-10.

838-849 PB L 73483 — Tests with flash welding. Mar 12-Sep 22, 1944. In German. 1.50

850-857 PB L 73483 — Heat-treatment experiments with various drum materials. Feb 13, 1942-Jun 4, 1942. In German. 1.50

858-864 PB L 73483 — Manganese-silicon steels. Sep 10, Oct 21, 1942. In German. 1.50

865-867 PB L 73483 — Sheets of chromium vanadium steel. Sep 11-Sep 24, 1942. In German. 1.50

868-879; 886-888 PB L 73483 — Refining steels by heat treatment utilising the heat of the rolling process. Dec 1942-Jul 1944. In German. 1.50

880-881; 891 PB L 73483 — Tests of piercers. Mar 1943-Dec 1944. In German. 1.50

882-885 PB L 73483 — Tempering tests on die steel. Mar-Apr 1943. In German. 1.50

886-888 PB L 73483 — See frames 868-879.

889 PB L 73483 — Round billets of Russian make. Oct 31, 1944. In German. 1.50

890 PB L 73483 — Tests of high-pressure cylinders. Oct 17, 1944. In German. 1.50

891 PB L 73483 — See frames 880-881.

892 PB L 73483 — Tests on chromium-manganese-silicon steel. Feb 14, 1945. In German. 1.50

893-901 PB L 73483 — Formation of scales and cracks in steel tubes. Jan-Mar 1942. In German. 1.50

902-915 PB L 73483 — Tests of cold-drawn tubes. Sep 1942-Jan 1943. In German. 1.50

916 PB L 73483 — See frames 191-255.

917-921 PB L 73483 — See frames 462-465.

922-930 PB L 73483 — See frames 51-190.

931-980 PB L 73483 — Experiments with centrifugally cast ingots. Sep 1942-Sep 1943. In German. 5.00

PB L 73483-S. VERSUCHSANSTALT DEUTSCHE RÖHRENWERKE A.G., MÜHLHEIM-RUHR. Metallurgical processes with metals and alloys. (FIAT Microfilm Reel L 11, Frames 1-980, abstract cards) 1940-1945. 91 p. Price: Microfilm-$3.00 - Photostat-$7.00
Brief abstracts of the individual items on the above reel L-11, PB 73483, prepared by FIAT investigators in Germany.

PB L 73592. VERSUCHSANSTALT DER DEUTSCHEN RÖHRENWERKE AG., MÜHLHEIM/RUHR. Metallurgical test reports of pipes and tubes. (FIAT Microfilm Reel N 17, Frames 1681-1708. (Also frames 1717-1735; Frames 1895-1920; Frames 1973-2030; Frames 2055-2161; and Frames 2246-2258)) 1937-1945. 245 f. Price: Microfilm-$3.25 - Enlargement print - $24.50
This reel was prepared by FIAT investigators in Germany. Individual items are listed and will be availabe as enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
1681-1702 PB L 73592	Experiments with new "Kllira" welding powders. Mar 8, 1945. In German.	$2.50
1703-1708 PB L 73592	Examinations of weldings on 1.5% chrome steel containers with addition of vanadium. Jan 26, 1942. In German.	1.50
1717-1722 PB L 73592	Comparative testing of butt welded and fusion welded tubes. Nov 4, 1938. In German.	1.50
1723-1726 PB L 73592	Testing of an electrically welded gas tube. Nov 23, 1938. In German.	1.50
1727-1729 PB L 73592	Testing of electrically welded tubes. Nov 25, 1938. In German.	1.50
1730-1732 PB L 73592	Testing of an autogenously welded tube of Danish origin. Nov 26, 1938. In German.	1.50
1733-1735 PB L 73592	Testing of fusion welded steel tubes. Nov 26, 1938. In German.	1.50
1895-1910	The copper-plating of edges of	
PB L 73592	copper-plated sheets. Mar 13, 1939. In German.	2.00
1911-1914 PB L 73592	Experiments with gas-heated underwater burners for pickling baths. May 14, 1942. In German.	1.50
1915-1918 PB L 73592	Pickling experiments with the "Ferracid" - Pickling bath. Jun 21, 1940. In German.	1.50
1919-1920 PB L 73592	Experiments for the manufacture of zinc chloride liquor from zinc ashes. Apr 17, 1940. In German.	1.50
1973-1975 PB L 73592	Corrosion test on tankers. Nov 1, 1939. In German.	1.50
1976-1977 PB L 73592	Testing of rejected galvanized sheets. Sep 3, 1939. In German.	1.50
1978-1979 PB L 73592	Testing of the formation of spots on zinc-coated tubes. Aug 17, 1939. In German.	1.50
1980-1986 PB L 73592	Testing of boiler scale of a steamboat boiler. Jul 19, 1939. In German.	1.50
1987-1991 PB L 73592	Water analysis of a heating plant. Jun 20, 1939. In German.	1.50
1992 PB L 73592	The removal of the nickelin plating from sheets. Apr 19, 1939. In German.	1.50
1993 PB L 73592	The testing of a welded pickling basket. Apr 19, 1939. In German.	1.50
1994-1995 PB L 73592	The resistance of aluminum to ammonia. Mar 6, 1939. In German.	1.50
1996-1998 PB L 73592	The speed of diffusion, solubility and chemical affinity of the ferritic rim zones when annealing steel. Jan 1942. In German.	1.50
1999-2000 PB L 73592	The desulfurization of magnesia. Feb 20, 1942. In German.	1.50
2001-2011 PB L 73592	Testing of scales on scaly steel drums. Jul 4, 1941. In German.	1.50
2012-2030 PB L 73592	Experiments for the avoidance of edge decarbonization when annealing steels resistant to cracks caused by concentrated alkaline solution. Jun 5, 1941. In German.	2.00
2055-2059 PB L 73592	The action of water vapor on copper-nickel-molybdenum steel, copper-nickel-steel and open hearth steel. May 22, 1940. In German.	1.50
2060-2071 PB L 73592	Surface damages of ingot steel by the furnace atmosphere. Mar 30, 1940. In German.	1.50
2072-2149 PB L 73592	The scaling of steels in sulfur-free and sulfur-containing gas atmospheres. In German.	8.00
2150-2155 PB L 73592	Experiments concerning the sensitivity to crackings of copper or copper-molybdenum steels. Sep 3, 1937. In German.	1.50
2156-2159 PB L 73592	Experiments for the increase of the heat transfer in a heated furnace by the installation of	

radiating bodies. Jun 17, 1942. In German. 1.50

2160-2161 PB L 73592 — Brass-plating tests with the addition of fluxing agents. Jun 21, 1941. In German. 1.50

2246-2249 PB L 73592 — A new method for the determination of the silicon in silicon carbide. Nov 5, 1941. In German. 1.50

2250-2253 PB L 73592 — Colorimetric determination of copper in alloyed steels. Nov 14, 1939. In German. 1.50

2254-2256 PB L 73592 — Colorimetric copper determination in alloyed steels. Nov 16, 1939. In German. 1.50

2257-2258 PB L 73592 — Qualitative quick detection of molybdenum in Remanit. Mar 8, 1941. In German. 1.50

PB L 73592-S VERSUCHSANSTALT DER DEUTSCHEN RÖHRENWERKE AG., MÜLHEIM/RUHR. Metallurgical test reports of pipes and tubes. (FIAT Microfilm Reel N 17, Frames 1681-1708. (Also frames 1717-1735; Frames 1895-1920; Frames 1973-2030; Frames 2055-2161; and Frames 2246-2258, abstract cards.)) 1937-1945. 38 p. Price: Microfilm-$1.00 - Photostat - $3.00
Brief abstracts of the individual items on the above reel N 17, PB 73592, prepared by FIAT personnel in Germany.

*PB L 80577. WINTER, J. K. and others. Abrasive manufacture in Germany. (BIOS Final Rept 1406, Item 21). Jun 1947. 33 p. Price: Microfilm-$1.00 - Photostat-$3.00
The five principal abrasive factories in the British, American and French zones were visited and a report on each is given. In addition, brief visits were made to a number of the grinding wheel factories, and their views on the quality and uses of the various abrasives which had been available to them were obtained. A general report on this information is also included.

MINERALS AND MINERAL PRODUCTS

*PB L 80372. BARRINGTON, R. and others. Manufacture of sparking plug insulators. Composite report of interrogations of Herr Curt Schoenherr of Robert Bosch G.m.b.H., Feuerbach, Stuttgart. (BIOS Final Rept 1360, Item 19, Interrogation Rept 473). n. d. 5 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes the use of materials known as Pyramit II and III in spark plug manufacturing by Bosch. It describes the use of plastic molding and gives a composition for plastic injection molding. Methods of testing insulators by Bosch are also given.

*PB L 79640. BRITISH ELECTRICAL AND ALLIED INDUSTRIES RESEARCH ASSOCIATION. Interrogation of Dr. Werner Rath, Jun 19, 1946. (High permittivity ceramics). (BIOS Interrogation Rept 324). Nov 1946. 4 p. Price: Microfilm-$1.00 - Photostat-$1.00
During this interview the following subjects were discussed: high permittivity ceramics; other special ceramic bodies; normal ceramic dielectrics; firing; grinding; silvering; trimmer condensers; pressing and tolerances; and high voltage pot condensers.

*PB L 44964-S. DORR, J. V. N. and others. New method of beneficiation of low grade iron ore by the Wiedelmann washing tower. (Supplement to PB 44964, vol. 3, p. 654). (FIAT Final Rept 869, Supp 1). May 1947. 2 p. Price: Mimeo-$0.25
Completion of drawing FIAT final report No. 869 figure 2, page 6, "Washing Tower, 1000T Capacity" in the original report lacks reference letters referred to in the description of the apparatus. Herewith is included the same sketch with the reference letters inserted.

*PB L 78652. EPPLER, W. F. Bearing jewels of hardened synthetic spinel. (FIAT Final Rept 1038). Apr 1947. 42 p. Price: Mimeo-$1.25
Synthetic spinel can be hardened by heating. This property makes it possible to manufacture bearing jewels from the softer material before heat-treatment, then on proper heating to bring them to a hardness approaching corundum. Experimental work indicates that the optimum temperature and time of heating are 1000° C for 12 hours for spinel of the composition $MgO \cdot 3\,Al_2O_3$. Results of the mechanical corrosion hardness test, the Vickers test, the shearing strength, the vibration test and actual application indicate that jewel bearings perform satisfactorily. This report is an English translation. Appendix I contains nine tables and a bibliography is given in Appendix II. The original German text is presented in Appendix III.

*PB L 80609. FOSTER, D. B. and BUDDEN, K. G. The carbon industry in Germany. (BIOS Final Rept 1230, Item 22 and 31). Jun 1947. 54 p. Price: Microfilm-$2.00 - Photostat-$4.00
The following five German factories were visited and a detailed report is given for each factory covering equipment, raw materials, processes, products etc: (1) Didierwerke, Duisburg; (2) Ringsdorff-Werke, Mehlem; (3) Siemens Planiawerke, Meitingen; (4) Conradty, Rothenbach; and (5) Schunk and Ebe, and Ludwig Donges, Giessen.

*PB L 80407. GANFULE, M. K. Pottery industry, including domestic pottery, tiles, sanitary ware, electrical and laboratory porcelain, chemical stoneware. (BIOS Final Rept 1106, Item 22, 31). Apr-May 1946. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00
Twelve factories were visited and a brief report on each factory is given. A number of compositions as used by the various factories are included.

*PB L 78278. KRAMER, EDWARD N. and others. The smelting of ilmenite in Germany. (FIAT Final Rept 1061). Mar 1947. 57 p. Price: Mimeo-$1.50
Research is described on the smelting of ilmenite in a MgO lined batch rotary kiln in the presence of both carbon and a sodium hydroxide flux. The products are a high carbon content iron and a sodium titanate slag containing 60 - 70% titanium dioxide with a TiO_2/Na_2O mol ratio of 4/1. Such slags can be reacted with sulfuric acid and subsequently processed to titanium dioxide pigment. The research has not progressed far enough to evaluate reliably the yields and economics of the process, or to establish definitely the probable life of the magnesia refractory lining. Eleven appendices containing the following information: 1) list of German personnel interviewed; 2) list of German targets visited; 3) bibliography; 4) list of material evacuated; 5) Titangesellschaft patents and patent applications on ilmenite smelting processes; 6) chemical analyses on material used and produced in smelting operation; 7) laboratory reactions of slags and ilmenite with sulfuric acid; 8) production of titanium dioxide pigments from slag liquors; 9) flow sheets for pilot plant and for proposed semi-works units; 10) list and sketches of proposed kiln installation equipment; and 11) list of drawings--melting point curves for systems.

Minerals (contd)

*PB L 78292. KIRSCHNER, OTTO. I. Asphalt lining of canals and storage basins. II. Asphalt lining of vertical walls. (FIAT Final Rept 1091). Apr 1947. 33 p. Price: Mimeo-$1.00

The first manuscript deals with the application of asphalt linings to canals and storage basins. Many years' experiments carried out at the research institute in Obernach/Isar on a natural scale and under normal weather conditions showed that a saturation layer or cold asphalt are less suitable, especially during severe winters, than rolled and cast asphalt. Asphalt packings are compared with loam and concrete packings in regard to their characteristics. The second paper is concerned with testing of asphalt insulation of vertical brick-walls, with particular emphasis to waterproofing. The performance of several types of asphalt applications are compared over a period of three years. Sketches and numerous photographs as well as a bibliography are included. This manuscript is in the German language.

*PB L 81277. RANGER, RICHARD H. Ceramic dielectrics for condensers. (FIAT Final Rept 892). May 1947. 16 p. Price: Mimeo-$0.50

This report deals with the progress made in the German ceramic industry on bodies used for insulating purposes during the year 1946. Appendix I gives list of German personnel interviewed, Appendix II a list of factories visited. Appendix III a bibliography, and Appendix IV a list of illustrations.

PB L 78673. U. S. FIELD INTELLIGENCE AGENCY. TECHNICAL. Clay minerals. (Tech Bulletin T-37). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

The informations given in this report on plastic clays were obtained through an interview of Dr. Ulrich Hofmann, Director of the Chemical Institute of the Technical High School at Vienna.

PB L 78675. U. S. FIELD INTELLIGENCE AGENCY, TECHNICAL. Processing Bavarian clay to activated clay (bleaching clay). (Tech Bulletin T-40). May 1947. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

The information given in this bulletin on activated clay was obtained through an interrogation of Dr. Rudolf Ittlinger, formerly works manager of the Daggensau plant at Süd Chemie, Germany.

PACKING AND PACKAGING

*PB L 79188. HOWARD, A. J. The German container and canning industries. (BIOS Final Rept 1231, Item 22, 31) Sep 1945. 38 p. Price: Microfilm-$1.00 - Photostat-$3.00

26 German factories were visited in order to make a survey of the technical development during the war. Can and container manufacturing plants had previously been surveyed by another investigator, attached to T.I.I.C.(C.I.O.S. report, File No. XXX-85) and it is suggested that the above mentioned report and the present one should be read in conjunction with one another. The main field of development was the search for alternative materials to tin plate which was initiated before the outbreak of war when Germany was anticipating that the supply of tin would be cut off. The use of substitute materials and their subsequent efficiency in practice are, therefore, largely the subject of this report. Process of manufacture is described and shown in illustrations. Translation of German army regulations is also included.

PB L 74068. INDUSTRIEWERKE, KARLSRUHE, GERMANY. Continuous packaging and flat-bag filling and sealing machines. (FIAT Microfilm Reel CC 267, Frames 431-875). 1938-1942. 444 f. Price: Microfilm-$5.25 - Enlargement print-$44.50

This FIAT microfilm, in two parts, consists of detail and assembly drawings for continuous packaging, and flat-bag filling and sealing machines. Both parts listed below, will be available separately as enlargement prints only; the entire reel may be purchased in microfilm form for $5.25. Please include PB and frame numbers when ordering individual sections of this reel.

Frames	Titles	Price
431-551 PB L 74068	R P packaging machine. 1940. In German. This continuous packaging machine has an output of 120-150 cartons per minute.	$12.50
552-875 PB L 74068	FSIIb continuous flat-bag filling and sealing machine. 1938-1942. In German. This machine has an output of 120-150 bags per minute. These drawings are continued in frames 876-972 of reel CC 268 (PB 74150).	32.50

PB L 21363-A2. U. S. AERONAUTICAL BOARD. Felt;hair, (with amendment no. 2, May 1947). (Army-Navy Aeronautical Specification AN-F-15a). Nov 1944. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 78677. U.S. NAVAL GUN FACTORY, WASHINGTON, D. C. Test of aircraft machine gun packages. (Navord NGF Project 292) Feb 1946. 23 p. Price: Microfilm-$1.00 Photostat-$2.00

The object of this test was to determine the relative effectiveness of plastic dip packages made of ethyl cellulose and "PLIOFILM" coverings used for preservation of aircraft machine guns and to estimate the effective life of these packages. The tests are described in detail and results are given. Seventeen photographs are included.

PERSONNEL APTITUDE TESTING AND JOB TRAINING

PB L 73984. A.E.G., BERLIN. Vocational training of lathe operators. (FIAT Microfilm Reel BB 195, Frames 1-167). 1938. 167 f. Price: Microfilm-$2.50 - Enlargement print-$17.00

This film was prepared by FIAT investigators in Germany. It describes the working field of lathe hands, the basic aptitudes necessary for metal working, and the examination standards for lathe hands. The film mainly consists of plans for the separate periods of education, and of working examples in form of drawings which are enclosed. In German.

PB L 79356. FOSTER, W. and others. Report of the departmental committee on apprenticeship for coal face workers. (British Commonwealth Scientific Office Rept 18-24-113). Feb 1947. 17 p. Price: Microfilm-$1.00-Photostat-$1.00

The committee recommends a system of unindentured apprenticeship for face work in British mines for young men up to 21 years of age. Provisions for technical and physical training and medical and safety precautions are outlined.

PB L 68127. MILL and FACTORY. A handbook of produc-

tion and maintenace "Know-How." n. d. 152 p.
Price: Microfilm-$4.00 - Photostat-$11.00
This illustrated handbook, a Navy Department reprint of "Mill and Factory" was designed for the purpose of improving production practices and conserving machinery, equipment, tools, and material. Elementary information is provided covering the more commonly used type of equipment and processing, as follows: (1) Electrical information; (2) mechanical power transmission; (3) materials handling; (4) plant maintenance, and metal working. The book is intended for employee training and as a reference.

PB L 73998. REICHSLUFTFAHRTMINISTERIUM, BERLIN. Apprentice training on aircraft construction. (FIAT Microfilm Reel BB-191, Frames 1-91). Oct 1941. 91 f.
Price: Microfilm-$1.75 - Enlargement print-$9.50
This FIAT microfilm reel presents a basic construction course for apprentices in aircraft construction, describing and illustrating the proper use and care of hand tools. In German.

PB L 80913. U. S. WAR DEPARTMENT. Army arithmetic. (Tech Manual 21-510). May 1943. 48 p. Price: Microfilm-$1.00 - Photostat-$4.00 (Available from the Supt of Docs. Washington 25, D. C., 20¢).
This manual was obviously intended for teaching semi-illiterate soldiers simple arithmetic.

PB L 80896. U. S. WAR DEPARTMENT. Army instruction. (Tech Manual 21-250). Apr 1945. 234 p. Price: Microfilm-$5.00 - Photostat-$16.00 (Available from the Supt of Docs. Washington 25, D. C., 30¢).

PB L 80898. U. S. WAR DEPARTMENT. Army reader. (Tech Manual 21-500). May 1943. 147 p. Price: Microfilm-$3.00 - Photostat-$10.00 (Available from the Supt of Docs. Washington 25, D. C., 35¢).
This manual was evidently intended for teaching semi-illiterate soldiers how to read.

PB L 80915. U. S. WAR DEPARTMENT. Civilian occupational classification of enlisted personnel. (Tech Manual 12-426). Jul 1944. 133 p. Price: Microfilm-$3.00-Photostat-$9.00 (Available from the Supt of Docs. Washington 25, D. C., 35¢).

PB L 80911. U. S. WAR DEPARTMENT. Reception center operations. (Tech Manual 12-223). Dec 1944. 65 p.
Price: Microfilm-$2.00 - Photostat-$5.00

PHOTOGRAPHIC AND OPTICAL GOODS (INCLUDING PHOTOGRAPHIC PROCESSING)

PB L 80664. ELLERBROCK, V. J. Report on survey of optical aids for subnormal vision. Nov 1945. 111 p.
Price: Microfilm-$3.00 - Photostat-$8.00
This report was written for the Committee on Sensory Aids of the Office of Scientific Research and Development. In order that the members of this committee could have an appreciation of the problems involved in the design of corrected optical instruments, certain fundamental optical characteristics are explained. Because this supplementary material has been added, readers thoroughly versed in optics can, without loss, omit Part I of this report. Part II deals with proposed and manufactured optical aids for subnormal vision and Part III gives opinion and recommendation of ophtalmologists and optometrists. The text is supplemented by photographs, illustrations and sketches. A bibliography is included.

*PB L 79597. FREEMAN, R. O. and LAWSON, J. Investigations into the organization of Ernst Leitz at Wetalar. (CIOS File XXIII-54, Item 9). Jun 1945. 26 p.
Price: Microfilm-$1.00 - Photostat-$2.00
This investigation was carried out to inquire into the organization and operation of the firm of Ernst Leitz at Wetalar. Dr. Ernst Leitz, Herr Ernst Leitz and Herr Dumur were interviewed. The Leitz methods of coating lenses were also investigated and presented in this report. A list of world distributors, factory plant layout, an organization chart of Leitz optical works and a list of key men are included.

PB L 77816. GREAT BRITAIN. MINISTRY OF FUEL AND POWER. SAFETY IN MINES RESEARCH BOARD, SHEFFIELD. Visual training aids for the mining industry. (British Commonwealth Scientific Office Rept 18-B5-61). Jun 1946. 14 p.
Price: Microfilm-$1.00 - Photostat-$1.00
Visual aids are essential to training and the spread of information and they in turn are essential in a progressive industry. This booklet gives instruction on how to operate and present film strip slide, the projector and screen, pictorial charts, cinema films and also include a list of film and charts available.

PB L 80667. JEHLE, HERBERT and FRANK, WALLACE. Research and development in connection with the design of projection magnifier for use by the semi-blind. Final report. (Franklin Institute Res Rept 319; Committee on Sensory Devices 47-4). Mar 1947. 93 p. Price: Microfilm-$2.00 - Photostat-$7.00
Ideal specifications have been written for the components of a projection magnifier intended to be used as a visual aid by the semi-blind. Three different models have been designed and constructed and are described in detail in this report. Lines of possible future development have been outlined. Appendix A, B and C contain instructions for unpacking, setting up and operating the three different models respectively. The text is supplemented by 53 illustrations and sketches.

*PB L 80570. LAYCOCK, and others. (1) Image converters, (2) photocells, (3) phosphors. (BIOS Interrogation Rept 404). Nov 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report covers an interrogation of Dr. Gaestner at Wimbledon, England on Nov 26, 1946. Dr. Gaestner was stated to have been the head of a Working Commission for infra-red research in the Speer Ministry. The investigation was interested only in: Image converters; Photocells; and Phosphors, and in these from the aspect of making fundamental properties rather than in the wider applications. It was apparent that Dr. Gaestner knew little of this matter, being concerned wholly with the application of the various devices which were made by other workers. The information obtained is given.

PB L 73040. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Calculations for objectives. (FIAT Microfilm Reel F 15, Frames 1-900) 1933-1942. 900 f.

Price: Microfilm-$6.00 - Enlargement print-$90.00
This FIAT microfilm reel consists of calculations for objectives listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-310 PB L 73040	Objective f=5 cm, 1 : 2.0, with split front lens, based on Hektor 1 : 1.9. 1933. In German.	$31.00
311-478 PB L 73040	Summar objective, f=5 cm, 1 : 1.5 for Leica camera. 1936. In German.	17.00
479-900 PB L 73040	I.R. Elkinar objective, f=125 mm, 1 : 1.25. 1942. In German.	42.50

PB L 73039. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and calculation for optical lenses. (FIAT Microfilm Reel F 14, Frames 1-700) 1936-1942. 700 f. Price: Microfilm-$6.00 - Enlargement print-$70.00
This FIAT microfilm reel consist of drawings and calculation for eyepieces and objectives, as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-177 PB L 73039	Eyepiece for antiaircraft binocular 8 x 60, f=25 mm, 12 x and 30 x. 1942. In German.	$18.00
178-561 PB L 73039	Calculations for various unidentified objectives. 1937-1940. In German.	38.50
562-657 PB L 73039	Drawings and calculations for Hektor objective, f=85 mm, 1 : 2.5. 1936. In German.	10.00
658-700 PB L 73039	Drawings and calculations for Hektor objective, f=52 mm, 1 : 2.0. 1936. In German.	4.50

PB L 73035. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and calculations for telescope objectives and eyepieces. (FIAT Microfilm Reel F 10, Frames 883-2080) 1906-1940. 1198 f. Price: Microfilm-$6.00 - Enlargement print-$120.00
This FIAT microfilm reel contains drawings and calculations for telescope objectives and eyepieces including correspondence and copies of patents dealing with priority claims to the Binuxit achromatic eyepiece. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
883-953 PB L 73035	Panoramic telescope objective Ebl. F. 32, f = 92.7 mm. Drawings and calculations. 1940. In German.	$7.50
954-1019 PB L 73035	Eyepieces B 450 and B 456, f = 30 mm. and f = 25 mm. Drawings and calculations. In German.	7.00
1020-1086 PB L 73035	Wide-angle objective f = 600 mm., 1 : 9. Drawings and calculations. In German.	7.00
1087-1360 PB L 73035	Eyepieces B 452-455, f = 33 mm., 36.6 mm. and 34.2 mm. 1935-1936. Drawings and calculations. In German.	27.50
1361-1414 PB L 73035	Wide-angle eyepiece, f = 20.0 mm. 1935. Drawings and calculations. In German.	5.50
1415-1504 PB L 73035	Objectives for antiaircraft binoculars, f = 200 mm., 600 mm. and 840 mm. Drawings. In German.	9.00
1505-1558 PB L 73035	Eyepieces for antiaircraft telescopes, f = 25 mm. 1935. Drawings and calculations. In German.	5.50
1559-1619 PB L 73035	Eyepiece for antiaircraft binoculars 6 x 30, f = 20.9 mm. 1942. Drawings and calculation. In German.	6.50
1620-1669 PB L 73035	Telescope objective f = 1000 mm., 1 : 4.8. Drawings and calculation. In German.	5.00
1670-1758 PB L 73035	Correspondence on patent matters regarding Binuxit wide-angle eyepiece, f = 15 mm., copies of 16 patents, and calculations. 1906-1940. In German.	16.00
1670-1673 PB L 73035	Correspondence. In German.	1.50
1674-1676 PB L 73035	BERTELE, LUDWIG (Inventor). Ocular. Ger. patent 501 456, Jul 14, 1930. Application B 143035 IX/42h, dated May 3, 1924. In German. Supplement to Patent 427 048. Drawing included.	1.50
1677-1679 PB L 73035	BERTELE, LUDWIG (Inventor). Ocular. Ger. patent 570 499, Feb 16, 1933. Application 42 h B 8.30, dated Jan 14, 1930. In German. Drawing included.	1.50
1680-1683 PB L 73035	GOTO-KOGAKU-KENKYUSHO, TOKYO. Wide-angle ocular. Ger. patent 11514, Aug 23, 1938. Application not given. Japanese original and German translation. Drawing included.	1.50
1684-1685 PB L 73035	HENSOLDT (M.) & SÖHNE, WETZLAR. Ramsden's ocular with chromatic correction by a cemented plane in the eyepiece system. Ger. patent 303 258, Sep 15, 1919. Application 42 h - 2, dated Aug 8, 1917. In German. Supplement to patent 270 274. Drawing included.	1.50
1686-1688 PB L 73035	HENSOLDT (M.) & SÖHNE, WETZLAR. Ramsden's ocular with chromatic correction by a cemented plane in the eyepiece system. Ger. patent 270 274, Feb 11, 1914. Application 42 h - 2, dated Dec 13, 1912. In German. Drawing included.	1.50
1689-1691 PB L 73035	ZEISS (CARL), JENA. Ramsden's ocular with a compound eyepiece system in which a chromatic correction is achieved by a cemented plane in which the concave side is turned toward the field lens. Ger. patent 179 473, Dec 12, 1906. Application 42 h - 2, dated Feb 20, 1906. In German. Drawing included.	1.50
1692-1693 PB L 73035	ZEISS (CARL), JENA. Ocular. Ger. patent 346 028, Dec 23, 1921. Application 42 h - 2, dated Feb 24, 1921. In German. Drawing included.	1.50
1694-1696 PB L 73035	GOERZ (C.P.) AKT. GES., BERLIN-ZEHLENDORF. A wide-angle ocular consisting of three positive parts. Ger. patent 461 062,	

Jun 13, 1928. Application O 15215 IX/42h, dated Oct 9, 1922. In German. 1.50
Drawing included.

1697-1698 PB L 73035 ZEISS (CARL), JENA. Ocular. Ger. patent 350 951, Mar 16, 1922. Application 42 h - 2, dated Jul 24, 1918. In German. 1.50
Drawing included.

1699-1701 PB L 73035 ZEISS (CARL), JENA. Ocular. Ger. patent 300 544, Sep 15, 1917. Application 42 h - 2, dated Jul 4, 1914. In German. 1.50
Drawing included.

1702-1704 PB L 73035 RODENSTOCK, G., MUNICH. Wide-angle ocular. Ger. patent 492 174, Feb 22, 1930. Application O 17254 IX/42h, dated Apr 17, 1928. In German. 1.50
Drawing included.

1705-1708 PB L 73035 GOERZ (C.P.) AKT. GES., BERLIN-FRIEDENAU. Ocular with a wide angle of view. Ger. patent 403 674, Oct 4, 1924. Application O 13677 IX/42h, dated May 6, 1923. In German. 1.50
Drawing.

1709-1710 PB L 73035 GOERZ (C.P.) AKT. GES., BERLIN-FRIEDENAU. Ramsden's ocular. Ger. patent 303 316, Jun 30, 1921. Application 42 h - 2, dated Mar 3, 1916. In German. 1.50
Drawing included.

1711-1712 PB L 73035 BERTELE, LUDWIG, (Inventor). Ocular. Ger. patent 427 048, Mar 22, 1926. Application B 113920 IX/42h, dated May 3, 1924. In German. 1.50
Drawing included.

1713 PB L 73035 BERTELE, LUDWIG (Inventor). Ocular. Ger. patent 436 398, Nov 1, 1926. Application B 116591 IX/42h, dated May 3, 1924. In German. 1.50
Supplement to patent 427 048.

1714-1717 PB L 73035 BERTELE, LUDWIG (Inventor). Ocular. Ger. patent 499 992, Jun 25, 1930. Application B 142185 IX/42h, dated Feb 27, 1929. In German. 1.50
Supplement to patent 427 048.
Drawing included.

1718-1758 PB L 73035 Calculations pertaining to above eyepiece. In German. 4.50

1759-1833 PB L 73035 Periscope S.R. 9. Drawings and calculation. In German. 7.50

1834-2021 PB L 73035 Eyepiece for binoculars, f = 15.25 mm. and f = 22.3 mm. 1925. Drawings and calculations. In German. 19.00

2022-2072 PB L 73035 Wide-angle telescope, 220°. Calculation of reversing system and eyepiece. In German. 5.50

2073-2080 PB L 73035 Wide-angle telescope T.B.F. 1, objective f = 5 mm. Calculation and drawings. In German. 1.50

PB L 73036. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and calculations for telescopic objectives and eyepieces. (FIAT Microfilm Reel F 11, Frames 1-1244) 1941-1943. 1244 f. Price: Microfilm-$6.00 - Enlargement print-$124.50
This FIAT microfilm reel consists of drawings and calculations for telescope and gun sight objectives and eyepieces as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-29 PB L 73036	Calculation of focus reduction from 10 mm to 5 mm. 1941. In German.	$3.00
30-84 PB L 73036	Wide-angle telescope objective L.W.R., 220. Calculation, drawings and correspondence. 1941. In German.	5.50
85-102 & 151-183 PB L 73036	Objective U.R. Summar, f=9 cm, 1 : 1. Calculation. 1943. In German.	5.00
103-150 PB L 73036	Objective U.R., f=25 cm, 1 : 1. Preliminary data and calculation. By Carl Zeiss, Jena. 1943. In German.	5.00
184-501B & 641-818 PB L 73036	Objective I.R. Summar, f=150 mm. Final calculation and drawings. 1941. In German.	20.00
502-536 & 573-594 PB L 73036	Objective for antiaircraft telescopic sight Rg. 43, f=300 mm. Drawings and calculation. 1941. In German.	6.00
537-572 & 595-640 PB L 73036	Objective for antiaircraft telescopic sight Rg. 43, f=750 mm. Drawings and calculation. 1941. In German.	8.50
819-1049 PB L 73036	Objectives I.R. Elkinar, f=300 mm, 310 mm, 400 mm, and 420 mm. Drawings and calculations. 1941. In German.	23.50
1050-1113 PB L 73036	Objective R.I., f=600 mm, 1 : 4.0. Drawings and calculations. 1941. In German.	6.50
1114-1120 PB L 73036	Telescope objective, f=200 mm and eyepiece, f=25 mm for gun sight 8 x 60. Calculation. 1942. In German.	1.50
1121-1124 PB L 73036	Telescope objective, f=200 mm. Calculations for accessories. 1942. In German.	1.50
1125-1244 PB L 73036	Telescope objective, f=200 mm, 1 : 3.33, for 8 x 60 gun sight. Drawings and calculations. 1942. In German.	12.00

PB L 73031. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for aircraft cameras and other instruments. (FIAT Microfilm Reel F 5, Frames 4053-5385. Frame numbers 4661-4724 are missing)
1934-1943. 1269 f. Price: Microfilm-$6.00 - Enlargement print-$127.00
This FIAT microfilm reel contains drawings and parts lists with specifications for aerial cameras and other optical instruments and accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
4053-4129 PB L 73031	Drawings and parts lists for unidentified stereoscopic sight. 1936. In German.	$8.00
4130-4350 PB L 73031	Telescopic declinator Rkr including accessories. Drawings and parts lists. 1934. In German.	22.50
4351-4356 4606-4660 PB L 73031	Carrying case and optics for telescopic sight T.Z.F. 3a. Drawings and parts lists. 1943. In German.	31.00
4357-4391	Carrying case for telescopic	

PB L 73031	sight T.Z.F. 4. Parts lists and drawings. 1943. In German.	3.50
4392-4605 PB L 73031	Telescopic declinator Rkr K 12, including accessories. Drawings and parts lists. 1943. In German.	21.50
4725-5385 PB L 73031	Aerial panoramic camera 20/30, Carl Zeiss, Jena. Drawings and parts lists. 1941.	66.50

PB L 73051. LEITZ, ERNST, G. M. B. H., WETZLAR, GERMANY. Drawings and parts lists for microscope objectives. (FIAT Microfilm Reel F 26, Frames 3882-4630). 1923-1942. 749 f. Price: Microfilm-$6.00 - Enlargement print-$75.00
This FIAT microfilm reel consists of drawings and parts lists for microscope objectives as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering idividual items from this microfilm reel. In German.

Frames	Title	Price
3882-3931 3971-3979 4030-4046 PB L 73051	Objectives Summar, f from 25 mm to 240 mm, 1 : 2,8 to 1 : 6,0. Drawings and parts lists. 1926-1940. In German.	$8.00
3932-3940 3955-3962 4014-4029 PB L 73051	Projection objectives f = 120 mm and f = 1000 mm. Drawings and parts lists. 1930. In German.	3.50
3941-3954 3963-3970 4047-4051 4060-4066 4090-4243 4255-4298 4333-4343 4459-4466 4497-4525 PB L 73051	Objectives of various models, f from 8mm to 80 mm, A from 0,25 to 1,40. Parts lists and drawings. 1923-1942. In German.	30.00
3980-4001 PB L 73051	Objectives Dimax, f from 225 mm to 400 mm. Parts lists and drawings. 1936. In German.	2.50
4002-4007 PB L 73051	Immersion cap for microscope objectives. Parts list and drawings. 1932. In German.	1.50
4008-4013 PB L 73051	Objective Dimenar, f = 350 mm. Drawings. 1940. In German.	1.50
4062-4089 4087-4089 4299-4332 4344-4409 4423-4439 PB L 73051	Objectives for oil immersion, f from 2 mm to 16 mm, 1 : 7 to 1 : 10. Drawings and parts lists. 1942. In German.	14.50
4244-4254 4410-4422 PB L 73051	Apochromats, f = 8 mm and f = 16 mm. Drawings. 1940-1941. In German.	2.50
4440-4458 PB L 73051	Leitz anastigmat f = 70 mm, 1 : 3,5. Parts list and drawings. 1932. In German.	2.00
4467-4496 PB L 73051	Soft-line objectives 1 : 3,5, f = 50 mm and f = 70 mm. Drawings and parts lists. 1931. In German.	1.50
4526-4630 PB L 73051	Objectives Hektor and Hektor Rapid, f = 25 mm and f = 35 mm. 1 : 1,4 and 1 : 2,5. Parts lists and drawings. 1932-1933. In German.	10.50

PB L 73027. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for optical instruments. (FIAT Microfilm Reel F 1, Frames not numbered) 1937-1945.
796 f. Price: Microfilm-$6.00 - Enlargement print-$80.00
This FIAT microfilm reel consists of complete sets of parts lists, drawings, and specifications for optical instruments and accessories as listed below. In German.

Subject	Number of frames
Telescopes, 7 x 50 and 4 x 7.	10
Binoculars of 18 types ranging from 5 x 30 to 8 x 60.	229
Range finders and accessories.	39
Biological microscopes for general use and specific purposes, such as microscopes for cancer examination, trichinoscopes, etc.	76
Microscope stands of various descriptions and for various purposes, including polarisation attachments and other special features.	442

PB L 73033. LEITZ, ERNST G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for optical instruments. (FIAT Microfilm Reel F 7, Frames 6850-7811) 1921-194
962 f. Price: Microfilm-$6.00 - Enlargement print-$96.50
This FIAT microfilm reel contains drawings and parts lists with specifications for telescopes, microscopes, microfilm cameras, etc. listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
6850-6880 PB L 73033	Monocular field glass with Hector Rapid objective, f 2,7 cm. Drawings and parts lists. 1944. In German.	$3.50
6881-6915 PB L 73033	Binocular field glass. Drawings and parts lists. 1944. In German.	3.50
6916-6931 PB L 73033	Monocular aiming glass Z. G. 1229. Drawings and parts lists. 1944. In German.	2.00
6932-7147 PB L 73033	Base slide microtome, demonstration microtome for frozen cuts and hand operated microtome with accessories. Drawings and parts lists. 1930-1933. In German.	22.00
7148-7210 PB L 73033	Precision microscope with intermediary image. Drawings and parts lists. 1941. In German.	6.50
7211 PB L 73033	Prism telescope 4 x 20. Drawing. 1929. In German.	1.50
7212-7232 PB L 73033	Mechanical stage AA. Drawings. 1929. In German.	2.50
7233 PB L 73033	Prism telescope 7 x 50. Drawing. 1928. In German.	1.50
7234 PB L 73033	Stand with coordinated movement. Drawing. 1934. In German	1.50
7235-7237 PB L 73033	Microphotographic apparatus JI. Drawings. 1928. In German.	1.50
7238-7259 7265-7269 7274-7278 7287-7298	Microscope stands A, A.B.M., a.M., U.O. and universal stand with accessories. Drawings. 1921-1930. In German.	6.00

7338-7341 7639-7642 7808-7811 PB L 73033		
7260-7261 7270-7273 PB L 73033	Large suspension camera. Drawings. 1922. In German.	1.50
7262-7264 PB L 73033	Three-lense condenser, A=1.40. Drawings. 1924. In German.	1.50
7279-7286 PB L 73033	Small metallographic microscope. Drawings. 1932. In German.	1.50
7299-7308 7353-7454 PB L 73033	Microscopic film camera for crystal growth photography and accessories. Drawings. 1932. In German.	11.50
7309-7337 7342 7455-7459 7483-7487 7505-7600 PB L 73033	Large comparison microscope, parts and accessories. Drawings and parts lists. 1932. In German.	14.00
7343-7352 PB L 73033	Ball joint with clamp for a lamp. Drawings. 1932. In German.	1.50
7460-7482 PB L 73033	Projectile turning apparatus. Drawings. 1932. In German.	2.50
7488 7643-7644 PB L 73033	Workshop microscope. Drawings. 1932. In German.	1.50
7489-7498 PB L 73033	Photo ocular. Drawings. 1932. In German.	1.50
7499-7504 PB L 73033	Precision adjustment for objective Summar. Drawings. 1932.	1.50
7601-7638 PB L 73033	Large profile projector for drawing apparatus. Drawings. 1937. In German.	4.00
7645-7647 PB L 73033	Precision profile microscope II. Drawings. 1943. In German.	1.50
7648-7807 PB L 73033	Large drawing table. Parts lists and drawings. 1936. In German.	16.00

PB L 73034. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for optical instruments. (FIAT Microfilm Reel F 9, Frames 1-850) 1922-1942. 850 f. Price: Microfilm-$6.00 - Enlargement print-$85.00

This FIAT microfilm reel consists of drawings and parts lists for dilatometers, projection apparatus, etc., their parts and accessories as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-3 & 280 PB L 73034	Central stand. Drawings. In German.	$1.50
4-79 83-147 281-284 288-332 343-348 742-747 840 PB L 73034	Profile projector and drawing apparatus, including parts, optics, tables and lamps. Drawings and parts lists. 1942. In German.	20.50
80-82 PB L 73034	Workshop microscope. Drawings. 1941. In German.	1.50
148-149 & 285 PB L 73034	ABW stand. Drawings. 1929. In German.	1.50
150-152 PB L 73034	Iris diaphragm. Drawings. 1929. In German.	1.50
153-193 198-277 333-342 PB L 73034	Projector objectives 20 x, 25 x, and 100 x. Drawings. 1937. In German.	13.50
194-197 PB L 73034	Small two-lens condenser. Drawings. 1923. In German.	1.50
278-279 PB L 73034	Enlarger, 6 1/2 x 9 cm, with automatic focusing. Drawings. 1934. In German.	1.50
286 PB L 73034	Special 12 v-100 watt lamp. Drawing. In German.	1.50
287 PB L 73034	Auxiliary 6 v-5 amp. lamp. Drawing. In German.	1.50
349-567 570-572 577-732 748-832 836-839 850 PB L 73403	Dilatometer H.T.V. with accessories. Drawings and parts lists. 1935. In German.	47.00
568-569 PB L 73034	Objective Summar, f=80 mm, 1 : 4.5. Drawings. 1925. In German.	1.50
573-575 PB L 73043	Large rotary camera. Drawings. 1922. In German.	1.50
576 PB L 73034	Base plate. Drawing. In German.	1.50
733-741 PB L 73034	Illumination stand with iris diaphragm. Drawings. 1925. In German.	1.50
833 841-849 PB L 73034	Leifo projector. Drawings. 1938. In German.	1.50
834-835 PB L 73034	Miniature lamp Mignon, 8 v - .06 amp. Drawings. In German.	1.50

PB L 73038. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for optical instruments. (FIAT Microfilm Reel F 13, Frames 1-958) 1937-1944. 958 f. Price: Microfilm-$6.00 - Enlargement print $96.00

This FIAT microfilm reel contains parts lists and drawings for telescopes, microscopes, and components, as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
1-8,24-100, 324-331 PB L 73038	Prism telescopes 7 x 50, 8 x 60, 8 x 30, 8 x 42. In German.	$9.50
9-23,101-210, 333 PB L 73038	Stereoscopic telescopes 8 x 60, 7 x 50, 6 x 30 for Navy and other uses. In German.	13.00
211-214,252- 297,308-323, 334,336,342- 343,346-644, 651-674,682- 718,733-746, 785-786,788.	Microscope stands for various purposes. In German.	$1.00

790-793,807-856,859-879,885-890
PB L 73038

215-248
PB L 73038 — Telescopic sights. In German. 3.50

249-251,298-307,332,335,337-341,645-650,675-681,719-732,747-784,787,789,794-806,847-858,880-884,911
PB L 73038 — Monocular and stereoscopic microscopes and microscopes for special purposes. In German. 12.00

344-345
PB L 73083 — Polarization tube for Panphot microscope. In German. 1.50

891-906,908-909,919,922-923,930-931
PB L 73038 — Huyghens' eyepieces, from 2 x to 12 x. In German. 2.50

907,910,912-918,920-921,924-929
PB L 73038 — Periplan eyepieces from 2 x to 10 x, simple, comparison, and projection eyepieces f=200 mm and f=250 mm. In German. 2.00

932-958
PB L 73038 — Objectives O, apochromat, Dimenar 170 mm to 250 mm, Summar 20 mm, 12 cm and 25 cm and Milar 20 mm and 30 mm. In German. 3.00

PB L 73032. LEITZ, ERNST, G.M.B.H., WETZLAR, GERMANY. Drawings and parts lists for the production of optical instruments and accessories. (FIAT Microfilm Reel F 6, Frames 5386-6849) 1938-1941. 1464 f. Price: Microfilm-$6.00 - Enlargement print-$146.50
This FIAT microfilm reel contains drawings and parts lists, including specifications, for a declinator, a submarine periscope, a Zeiss aerial camera and an objective as listed below. Individual items will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. In German.

Frames	Title	Price
5386-5892 5964-6188 6220-6482 6489-6499 6548-6730 PB L 73032	Box declinator, parts, accessories, carrying case and tripod including aiming circle collimators 35 m, 12 m and 9 m and a test collimator for antiaircraft sights. Drawings and parts lists with specifications. 1941-1943. In German.	$119.00
5893-5964 6189-6219 PB L 73032	Submarine periscope S.R. 9. Parts and accessories. Drawings and parts lists. 1938. In German.	10.50
6483-6488 6500-6547 PB L 73032	Aerial camera, parts and accessories. Carl Zeiss, Jena. Drawings and parts lists. 1941. In German.	5.50
6731-6848 PB L 73032	Objective I.R., f=25 cm, 1 : 1. Parts including cooling and heating arrangement. Drawings and parts lists. 1941. In German.	12.00

PB L 78591. LOCKHART, LUTHER B., JR. Coatings of low and high reflectivity for optical surfaces. (Naval Res Lab Rept P-2371). Sep 1944. 52 p. Price: Microfilm-$2.00 - Photostat-$4.00
The principal object of this investigation was a thorough study of the application of the two-coat reflection-reducing film proposed by Moulton and Tillyer of the American Optical Company, with particular attention paid to the various factors influencing the effectiveness, reproducibility and stability of the coatings. Three tables and 32 graphs are included.

PB L 78594. LOCKHART, L. B., JR. Survey of two-coat reflection-reducing films. (Nav Res Lab Rept - P-2440; Nav Res Lab Problem P-84). Jan 1945. 36 p.
Price: Microfilm-$1.00 - Photostat-$3.00
A comprehensive study (theoretical and experimental) of two-coat reflection reducing films was made with particular emphasis on the effects of variations of the thicknesses and of the refractive indices of the films on the reflection reducing efficiencies of the coatings. The experimental results were compared with theoretical values calculated through the use of equations developed by Dr. B. Salzberg, relating to the reflection of electromagnetic waves from coated surfaces. 21 graphs are included.

PB L 77753. MOREY, D. R. A flash protective shutter for night binoculars. NDRC Contract OEMsr-707, Second report. (NDRC Rept 16.5-31). May 1943. 38 p.
Price: Microfilm-$1.00 - Photostat-$3.00
This report describes the work done by the Tennesse Products Division on electromagnetically- and explosively-propelled shutters, the purpose of which is to protect a pilot's eyes from the sudden brilliancy of enemy flash bombs and flares. The text is supplemented by illustrations and diagrams.

PB L 75944. PELLIEUX, EDMOND (tr.). The latest developments in three-dimensional photography. (AFF T-2 Translation 800). Mar 1947. 6 p. Price: Microfilm-$1.00 - Photostat-$1.00
This article describes how three-dimensional photographs are obtained according to Maurice Bonnet's method. They consist of a composite image in front of which a transparent selector with refractive cylindric lenticular elements is placed. This image is the result of the combination of numerous basic images, instead of only two as in the past. Several diagrams are included.

PB L 78621. PICK, HEINZ. The photo-electric sensitivity of lead sulfide. (AAF T-2 Translation 1038). Mar 1947. 28 p. Price: Microfilm-$1.00 - Photostat-$2.00
Thin lead sulfide layers have high photoelectric sensitivity below wave lengths of approximately 3.5 μ. Production of layers, their arrangement in a cell, and general properties are briefly described. A study is made of the resistance variation as a function of the radiation intensity, temperature, modulation frequency, and time. Graphs and sketches are included.

*PB L 80397. SCHAEFFER, HANS and EBNER, FRITZ. A new stereoscopic effect and its physiological interpretation. (FIAT Final Rept 1176). n. d. 18 p. Price: Mimeo-$ .50
The report describes a newly observed effect on stereoscopic perception produced by interpolating a colored filter in front of one eye and discusses a physiological interpretation of the effect in binocular vision. An 18 to 45% improvement in visual depth perception is claimed which may be based on centrally registered differences in frequency acting on two optic nerve fibres of corresponding cones in the right and left eye. Tables are included. This report, in German, was issued by the W. C. Kerckhoff-Institut. Bad Nauheim, Germany.

PB L 78626. SCHRÖDER, H. Properties of optical glass with chemically treated surfaces. (AAF T-2 Translation 1010; ZWB FB 1287). Feb 1947. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
The methods of producing and the optical properties of reflection diminishing layers are discussed. The layers are produced by chemically changing the surface of glasses. Their relationship to the chemical constitution of glass is discussed. Tests on temperature treatment and aging of the layers are described.

PHYSICS

Nuclear

PB L 78738. SACHS, R. G. On the magnetic moment of tritium. Apr 1947. 2 p. Available from American Institute of Physics, 57 East 55 St., New York 22, N. Y.,$1.00
A discussion of the work of Anderson and Novick which indicated that the magnetic moment of tritium is slightly greater than the proton moment. This is a report from the Argonne National Laboratory.

PB L 78739. SEABORG, G. T. Plutonium and other transuranium elements. (Manhattan Engineer District MDDC Rept 505). Nov 1946. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report presents a discussion of the four known transuranium elements, neptunium, plutonium, americium, and curium, together with a brief description of the complex nuclear reactions which lead to the production of their isotopes.

PB L 78740. SEREN, LEO and others. The reaction of $_{38}Sr^{86}$(n, gamma) $_{38}Sr^{87*}$. Produced by thermal neutrons. Apr 1947. 4 p. Available from American Institute of Physics, 57 East 55 St., New York 22, N. Y., $1.00
The isotope $_{38}Sr^{87*}$, which is the excited isomer of the stable state $_{38}Sr^{87}$, has been produced by thermal neutron capture of the isotope $_{38}Sr^{86}$ of the entire species of radio isotopes produced by thermal neutron capture of stable isotopes. This is the only case in which the binding energy released by capture produces an excited state of the next stable isotope. A graph, indicating comparison of absorption curves, is included. This is a report from the Argonne Laboratory, University of Chicago.

* PB L 61998-A. STRANSKI, IWAN N. and SUHRMANN, RUDOLF. The electron emission of crystalline metal surfaces and its relation to the laws of crystal structure. I. Pure single-crystal surfaces. (Correction to table I. For basic report, see PB 61998, vol. 5, p. 30). (FIAT Rept 1030, amendment). Jan 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00 (Limited supply mimeo-$0.25)

PB L 78744. THORNTON, R. L. The University of California synchro-cyclotrons. (Manhattan Engineer District BP Rept 23). Jul 1946. 25 p. Price: Microfilm-$1.00 - Photostat-$2.00
For declassification purposes, a general description of the California cyclotrons is given. The discussion is on an elementary level and indicates the scope and function of the various components described in detail in a large mass of engineering drawings and special reports.

PB L 61408-S2. UNITED NATIONS ATOMIC ENERGY COMMISSION. U. S. REPRESENTATIVE. The international control of atomic energy: The first report of the United Nations Atomic Energy Commission to the security council. (U. S. and U. N. Rept Series 8). Dec 1946. 104 p. Price: Microfilm-$3.00 - Photostat-$7.00. (Also available from U. S. Government Printing Office, Washington 25, D. C. $0.25)
This interim report sets forth in the form of findings and recommendations the progress made to date in the deliberations of the Atomic Energy Commission, and its various committees and informal meetings. The report is in five parts as follows: Part I, Proceedings; Part II, Findings; Part III, Recommendations; Part IV, First Report on Scientific and Technical Aspects of the Problem of Control; and Part V, First Report on Safeguards Required to Ensure the use of Atomic Energy only for Peaceful Purposes. See PB 61408 and PB 61408-S, vol. 5, p. 794, this bibliography.

PB L 67960. U.S. ATOMIC ENERGY COMMISSION. ARGONNE NATIONAL LABORATORY. Alpha hand counter Mark 10 model 10A. Feb 1946. 2 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes the model 10A counter used to determine the presence of alpha emitting materials on the hands. The meter range is 20-10,000 counts per minute. The yield of the detector unit, an air proportional counter, is about 20%. A wiring diagram is included.

PB L 78713. WALLACE, P. R. Theory of the solid state. Parts 1 and 2. May - Jun 1946. 73 p. Price: Microfilm-$2.00 - Photostat-$5.00
The aim of these lectures is to survey the modern quantum mechanical theory of the properties of solid materials to serve as a basis for predicting how some properties of various types of solids may be expected to be altered under the action of intense neutron irradiation. Part I discusses: (1) Energy bands; (2) nature of the wave functions; (3) Brillouin zones; (4) "nearly free electron" and tight binding approximation; (5) motion of electrons; (6) applications of the theory to graphite; and (7) the band theory of graphite. Part II covers: (1) Ionic motion in solids; (2) conduction in insulators; (3) semi-conductors and contact rectification; (4) phosphorescence.

PB L 78745. WRIGHT, B. T. and RICHARDSON, J. R. Frequency modulated cyclotron characteristics. (Manhattan Engineer District BP Rept 13a). Jun 1946. 8 p. Price: Microfilm-$1.00 - Photostat-$1.00
A discussion, followed by graphs indicating: (1) Cyclotron output as a function of the frequency modulation rate, all other variables being held constant; (2) beam current as a function of the probe radius at various tank pressures; and (3) cyclotron output as a function of the dee voltage. An oscillograph picture of an individual beam pulse is included. This is a report from the Radiation Laboratory, University of California.

TEXTILES AND TEXTILE PRODUCTS

* PB L 79430. ALDRED, G. A. and others. Silk and ramie yarn production in Germany. (BIOS Final Rept 1328, Item 22, 31). Nov-Dec 1946. 31 p. Price: Microfilm-$1.00 - Photostat-$3.00
Eight factories were visited and a detailed report given on each visit, covering: Ramie spinners; sericulture and net silk processing; silk spinners; and textile machinery makers. Ten drawings and photographs of textile machinery are included.

PB L 52006. GERMANY. REICHSAMT FÜR WIRTSCHAFTSAUSBAU. First meeting of the cooperative group for textile fibers, June 28, 1940. Jun 1940. 120 p. Price: Microfilm-$3.00 - Photostat-$8.00
For abstract of the above report, see "Chemicals and Allied Products--Miscellaneous Chemicals" in this issue.

PB L 79159. GREENBERG, SHIRLEY M. and others. Field test of miticidal clothing, Camp Blanding, Florida. (CWS Tech Div Memo Rept 1296). Apr 1947. 115 p.
Price: Microfilm-$3.00 - Photostat-$8.00
The object of the work described in this report was to test various types of benzyl benzoate-treated clothing worn on combat maneuvers in warm humid areas to determine: a) the life span of the garment with respect to BB content and miticidal efficiency; b) the degree of irritation caused by the clothing; c) the general characteristics of such cloth-

ing; and 6) the use of dibutyl phthalate as a partial substitude for benzyl benzoate (BB). The tests are described in detail and conclusions and recommendations given. Five appendices and a bibliography are included.

*PB L 80375. HOLDEN, A. P. T. Miscellany of German wool textile industry. (BIOS Final Rept 1362, Item 22, 31). Aug 1946. 51 p. Price: Microfilm-$2.00 - Photostat-$4.00
This document contains twenty-four reports on textile mills investigated in Germany. The reports describe the present activities, products manufactured, and methods and machinery used. Twenty illustrations, sketches and lay-outs of machinery are included.

*PB L 80610. HOPKINSON, G. G. and others. A survey of the German woolen and worsted dyeing and finishing trades. (BIOS Final Rept 1327, Item 22). Jan 1947. 53 p. Price: Microfilm-$2.00 - Photostat-$4.00
This report covers a detailed survey of the German wool dyeing and finishing trade. The survey consisted of investigation of 25 German firms and was confined soley to dyeing and/or finishing. Twenty-one sketches and photographs are included.

PB L 21807-A. U. S. AERONAUTICAL BOARD. Webbing: elastic cotton, (with amendment no. 1, May 1947). (Army-Navy Aeronautical Specification AN-W-15a). Oct 1946. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

PB L 49185-A. U. S. BUREAU OF AERONAUTICS. Cloth, balloon. (Amendment no. 1 to PB 49185). (NAVAER Specification M-748, Amendment). Apr 1947. 1 p. Price: Microfilm-$1.00 - Photostat-$1.00

TRANSPORTATION EQUIPMENT

AERONAUTICS

*PB L 78281. BUSCHBAIN, R. P. and KRONER, E. F. Miscellaneous German aeronautical developments. (FIAT Final Rept 1055). Apr 1947. 64 p. Price: Mimeo-$1.75
This report presents data obtained from German professors at Technische Hochschule Darmstadt and Munich, engineers at Bayerische Motoren Werke, and through interrogations of Willy Messerschmitt and other aeronautical experts. Matters pertaining to jet and rocket engines, as well as other aeronautical subjects were discussed. Sketches and technical data are included.

PB L 57173. GREAT BRITAIN. AIR MINISTRY. METEOROLOGICAL OFFICE. How to avoid flying accidents due to weather; second edition. (British Commonwealth Scientific Office Rept 65-B1-12). 1946. 8 p. Price: Microfilm-$1.00-Photostat-$1.00
This booklet gives a summary of important points, describes how to get weather information and how to apply weather knowledge; also use of flying control in bad weather. It further advices the study of the Meteorological Handbook for Pilots and Navigators. For this Handbook see PB L 57317.

PB L 79342. GREAT BRITAIN. MINISTRY OF AIRCRAFT PRODUCTION. Aircraft builders: An account of British aircraft production, 1935-1945. (British Commonwealth Scientific Office Rept 33-B3-158). 1947. 91 p. Price: Microfilm-$2.00 - Photostat-$7.00
This booklet describes the achievement of the British aircraft industry from 1935 to the end of the war and gives full credit to the people who made such achievement possible.

PB L 78993. GREAT BRITAIN MINISTRY OF SUPPLY. Index aeronauticus: A review of technical information. Volume III, Number 3. (British Commonwealth Scientific Office Rept 33-B3-114) Mar 1947. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00
The primary purpose of Index Aeronauticus is to draw attention to articles of value in the world's technical press in connection with aeronautical research, development, production and operation. Translations and bibliographies considered to be of value to aeronautics in general, are also listed.

PB L 79399. GREAT BRITAIN. MINISTRY OF SUPPLY. Index Aeronauticus: A review of technical information. Vol. III, no. 6. (British Commonwealth Scientific Office Rept 33-B3-160). Jun 1947. 101 p. Price: Microfilm-$3.00 - Photostat-$7.00
The primary purpose of Index Aeronauticus is to draw attention to articles of value in the world's technical press in connection with aeronautical research, development, production and operation. Translations and bibliographies, considered to be of value to aeronautics in general, are also listed.

PB L 81597, PB L 81955 - PB L 81959. U. S. ARMY AIR FORCES. Technical data digest. Vol. 12, Nos. 1-6. Prices are as given below.

PB No.	Number	Date	Pages	Price: Microfilm	Photo.
L 81955	1	Jul 1, 1947	33	$1.75	$4.00
L 81597	2	Jul 15, 1947	40	1.75	4.00
L 81956	3	Aug 1, 1947	55	2.25	5.00
L 81957	4	Aug 15, 1947	38	1.75	4.00
L 81958	5	Sep 1, 1947	50	2.00	5.00
L 81959	6	Sep 15, 1947	39	1.75	4.00

The Technical Data Digest which was discontinued October 1945 has now been revived to serve as a complement to the Air Technical Index. While the Index will list documents and reports accomplished by and for government agencies, the Technical Data Digest will provide brief reviews of unclassified and published aeronautical literature. In combination, these two services will furnish a comprehensive picture of current aeronautical developments. The abstracts, featured in The Technical Data Digest, are supplied prior to publication and are, therefore, representative of the current literature in the field of aviation. They are arranged in such a manner that they can easily be cut out, pasted on conventional catalog cards and filed for reference. The Technical Data Digest will now be issued semimonthly.

*PB L 78255. WEAVER, CHARLES S. Report index on German aeronautical research documents. (FIAT Final Rept 948). Apr 1947. 106 p. Price: Mimeo-$2.75
This report contains a complete index in English and German to the research papers appearing in the yearbooks for German Aeronautical Research ("Jahrbuch der Deutschen Luftfahrtforschung"), published by the German Dissemination Center for Scientific Communications on Aeronautics Research of the Chief of Air Services, "Zentrale für Wissenschaftliches Berichtswesen der Luftfahrtforschung des Generalluftzeugmeisters", (ZWB), for the years 1939 through 1944, and the yearbooks published by the German Academy for Aeronautical Research, ("Jahrbuch der Deutschen Akademie der Luftfahrtforschung"), for the years 1939 through 1942. There are 832 reports listed in this collection. These papers cover a wide range of subjects and include, besides general aeronautical reports, documents in the fields of electronics, communications, photography, optics, mechanics, chemistry, metallurgy, meteorology and medicine.

LAND TRANSPORTATION

PB L 79251. LYONS, THOS. R. and others. The economic vulnerability of Japan in inland transportation and coastwise shipping. Part I - Railways, highway transport and pipe lines. Part II - Highways. Part III - Coastwise shipping. May 1941. 72 p. Price: Microfilm-$2.00 - Photostat-$5.00
This is the first draft of a study of internal transportation (excluding maritime shipping) in the Far East region, with particular reference to Japan, prepared by the Public Utilities Unit of the Division of Industrial Economy, Bureau of Foreign and Domestic Commerce. The study of railroads and inland waterways has been restricted to Japan proper. The conclusion is that Japan's transportation facilities were greatly overburdened at the time of the report. Tables are included.

PB L 33372. ROCHESTER. UNIVERSITY. INSTITUTE OF OPTICS. A blackout driving light. Interim report. (OSRD Rept 1263). Nov 1942. 13 p. Price: Microfilm-$1.00 - Photostat-$1.00
Investigations of driving problems under blackout conditions indicated that the maximum amount of white light allowable is 25 to 30 beam candle power. Preliminary investigations showed that a deep visible red light of about ten times this C.P. could be used without increasing visibility from the air. A driving light of this type was designed and tested. Sketches, photographs, and graphs are included. See also PB L 33373.

PB L 33373. ROCHESTER. UNIVERSITY. INSTITUTE OF OPTICS. Blackout driving light: II. Final report, Feb 1, 1943. (OSRD Rept 1600). Jun 1943. 3 p. Price: Microfilm-$1.00 - Photostat-$1.00
This report describes improvements in a blackout driving light using a sharply defined low visibility red beam, reported in PB L 33372.

PB L 78590. U.S. WAR DEPARTMENT. Fits, tolerance and wear limits for White model 160AX engine. (Tech Bulletin 9-1711-7) Mar 1945. 15 p. Price: Microfilm-$1.00 - Photostat-$1.00
This technical bulletin contains table of fits, limits, tolerances, and maximum wear limits, gives the original minimum, maximum, and desired size of new parts when manufactured as well as wear limits that indicate the point to which a part may be worn before replacement in order to receive maximum service with minimum replacement.

PB L 80619. U. S. WAR DEPARTMENT. Ordnance maintenance: Hull and water drive for 2½-ton 6 x 6 amphibian truck, (GMC DUKW-353). (Tech Manual 9-1802C) Dec 1943. 270 p. Price: Microfilm-$6.00 - Photostat-$18.00

PB L 80581. U. S. WAR DEPARTMENT. Power train, suspension system, hull, and hull electrical system for cargo carrier M28 (T15). (With changes no. 1, Apr. 10, 1945). (Tech Manual 9-1893B). Aug 1943. 202 p. Price: Microfilm-$5.00 - Photostat-$14.00 (Available from the Supt of Docs. Washington 25, D. C. $0.35)
The instructions contained in this manual are for the information and guidance of personnel charged with the maintenance and repair of the cargo carrier M-28 (T15). This manual contains a description of, and procedure for removal, disassembly, inspection, and repair of the power train, suspension system, hull, and hull electrical system. The text is illustrated throughout showing procedures.

PB L 78588. U.S. WAR DEPARTMENT. Reclamation of Autocar, Diamond T, and White half-track upper bogie roller C86010 (Off. Stock no. 0102-02-04960). (Tech Bulletin 9-2930-78) Jul 1944. 2 p. Price: Microfilm-$1.00 Photostat-$1.00
This technical bulletin describes how the upper bogie rollers may be reclaimed by welding a split steel ring over the worn area.

MARINE TRANSPORTATION

PB L 79216. DEUTSCHE WERFT. HAMBURG. Captured German plans of submarine chasers. n.d. 101 p. Price: Microfilm-$3.00 - Photostat-$7.00
This report consists of plans for a vessel of the forecastle and quarterdeck type with one mast placed between the two cargo holds. The vessel appears of interest for the following reasons: (1) The use of modified Mayer form lines in combination with a chine; (2) use of coal fired twin screw reciprocating propulsion machinery with exhaust turbines; and (3) the use of 86.1 tons of ballast concentrated above the main deck. Several pages of descriptive material are in English. Legend on the drawings is in German.

PB L 79208. SCHUETZE, W. Possibilities of standardizing types and classes of fire boats. (Translated from Feuerschutztechnik, vol. 22, no. 4, April, 1942) Apr 1942. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
This report discusses the following: (1) Operating requirements for fireboats; (2) survey of existing fireboats, (3) hulls; (4) decks, superstructures, and fittings; (5) Engines and propellers; and (6) equipment.

PB L 74432. U. S. BUREAU OF SHIPS. Instruction manuals for marine transmissions Diesel generators, and marine Diesel engines. (Bur. Ships Navy Dept. Reel D 6050-1 - 6050-5, Frames not numbered) 1944. 670 f. Price: Microfilm-$6.00 - Enlargement print-$67.00
This microfilm reel contains 5 illustrated instruction manuals and parts lists. The individual manuals, listed below, will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and item numbers and titles when ordering individual items from this reel.

Item	Title	Price
D 6050-1 PB L 74432	Operators' and maintenance manual and parts list for Morse marine transmission (for YT 277-290 harbor tugs). Dec 1944.	$7.00
D 6050-2 PB L 74432	Instruction manual and parts list for model GAR-2 navy type Diesel generating sets (for LCT vessels). Jul 1944.	15.50
D 6050-3 PB L 74432	Instruction manual and parts list for model GDB-8 navy type Diesel generating sets (for LST 542 class vessels). Sep 1944.	18.50
D 6050-4 PB L 74432	Instruction manual, parts, and price list for 6 cyl. Superior marine Diesel engines, type KNB (12" bore, 15" stroke, cold starting, mechanical injection type). n. d.	17.00
D 6050-5 PB L 74432	Instruction manual and parts list for 4 cyl. Superior marine Diesel engines for 20 ft. submarine motor boats (3" bore, 3 1/4" stroke, solid injection type). Aug 1944.	10.00

PB L 74433. U. S. BUREAU OF SHIPS. Instruction and service parts manuals for marine Diesel engines. (Bur. Ships Navy Dept. Reel D-6010-1 - D 6010-7, Frames not numbered) 1929-1944. 807 f. Price: Microfilm-$6.00 - Enlargement print-$81.00

This reel contains 7 manuals for General Motors Diesel engines for harbor tugs, LST vessels, etc. The individual manuals listed below, will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and item numbers and titles when ordering individual items from this microfilm reel.

Item	Title	Price
D 6010-1 PB L 74433	Service parts manual for model 1-71 General Motors Diesel engines. Sep 1944.	$6.50
D 6010-2 PB L 74433	Parts list for 8-cyclinder - 138 marine engine (for yacht "Tara"). Nov 1929.	7.50
D 6010-3 PB L 74433	Service parts manual for model 1-268 General Motors marine Diesel engine. n. d.	5.50
D 6010-4 PB L 74433	Maintenance manual for model 6-278A General Motors Diesel engines (for harbor tugs YT 364-367 and YT 368-421). Apr 1944.	14.00
D 6010-5 PB L 74433	Service parts manual for model 6-278A General Motors Diesel engines. Apr 1944.	17.50
D 6010-6 PB L 74433	Instructions for care and maintenance of model 12-278A 12 cylinder V-type General Motors Diesel engines (2-cycle air-started unit injector, 8 3/4" diameter x 10" stroke). Dec 1942.	10.00
D 6010-7 PB L 74433	Service parts manual for model 12-567 ATL General Motors Diesel engines for LST vessels (electrical control equipment, reverse reduction gear, combination pumps, standby pumps). (See reel D 7252, PB 74434, for instructions for the care and operation of these engines.) Jun 1944.	21.00

PB L 74434. U. S. BUREAU OF SHIPS. Instruction manual for model 12-567 ATL GM Diesel engines for LST vessels. (Bur. Ships Navy Dept. Reel D 7252, Frames not numbered) 1944. 73 f. Price: Microfilm-$1.50 - Enlargement print-$7.50

This microfilm reel consists of an illustrated manual presenting instructions for the care and operation of model 12-567 ATL Diesel engines (electrical control equipment, reverse reduction gear, combination pumps, and standby pumps). See reel D 6010-7 (PB L 74433) for service parts manuals for these engines.

PB L 78748. WILSON, W. M. and others. Cleavage fracture of ship plates as influenced by size effect. Final Report. (NRC SSC-10). Jun 1947. 166 p. Price: Microfilm-$4.00 - Photostat-$12.00

This final report contains a description of tests made to determine why ship plates crack in service. The tests were based upon the hypothesis that the cracks begin at points where there are severe geometrical stress-raisers and that the tendency for the plates to crack increases, for specified geometrical characteristics, with an increase in the notch-sensitivity of the steel. A total of 76 plates were tested. Numerous photographs, tables, and graphs are included. The work was undertaken by the University of Illinois.

MISCELLANEOUS

PB L 68294. AMERICAN TECHNICAL MISSION TO BRAZIL. Report to the President of the United States. Vol. I. Dec 1942. 74 p. Price: Microfilm-$2.00 - Photostat-$5.00

Volume I presents the origin and functions of the Brazilian and American Technical Missions; modern technology and the basis of international trade; a development program related to war emergencies, and long-term problem. Also in this volume are summaries of members' individual reports appearing in Volume II and a list of personnel of the American Mission. For Volume II see PB 68295.

PB L 68295. AMERICAN TECHNICAL MISSION TO BRAZIL. Report to the President of the United States. Vol II. Jan 1943. 430 p. Price: Microfilm-$9.00 - Photostat-$29.00

Vol. II consists of eighteen reports covering the following subjects: 1) An introduction by Morris L. Cooke, Chief of the Mission, with some correspondence between President Roosevelt and the American Mission, President Vargas, and the Brazilian Mission, also a list of personnel; 2) The economic setting, by Corwin D. Edwards; 3) Cargo plane and glider utilization, by James M. Boyle; 4) Land and water transportation, by Alex. A. Tennant; 5) Fuels, by Judson C. Dickerman; 6) Petroleum, by William J. Keanitzer; 7) Electric power, by Judson C. Dickerman; 8) Textiles, by Donald K. Woodard; 9) Pulp and paper, by William O. Lichter; 10) Mining and metallurgy, by Frank Hodson; 11) Chemical industry, by Charles F. Bonilla; 12) Dehydration of food products, by Joseph W. Rothmeyer; 13) Education, by Corwin D. Edwards; 14) Translation of books into Portuguese, by William O. Lichtner; 15) American Reference Library, by Corwin D. Edwards; 16) Industrial planning program, by Joseph W. Rothmeyer; 17) Electrical equipment manufacture, by Judson C. Dickerman; and 18) San Francisco river survey, by H. C. Poland. Vol. II-A, now in preparation by Corwin D. Edwards, will include additional monographs, a) source of credit for new enterprise, b) Brazilian trade associations, and c) Public control of markets and prices, also by Robert W. Bruere, Manpower assets in Brazil. For Vol. I of this report see PB 68294 above.

PB M 78720. CANADA. DEPARTMENT OF NATIONAL HEALTH AND WELFARE. Nursing service in Canada: A submission by the Canadian Nurses Association, September 1946. 1946. 51 p. Price: Microfilm-$2.00 - Photostat-$4.00

This report is presented as a means of indicating situations and trends in the present distribution, demand, and supply of nurses in Canada, together with an estimate of the demand for and the supply of nursing service which seems likely to prevail during the next three years.

PB M 78721. CANADA. DEPARTMENT OF NATIONAL HEALTH AND WELFARE. Survey of physicians in Canada, July, 1946. 1946. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00

This is a report on a survey conducted to provide information concerning the distribution, and the present and future supply of physicians in Canada, with some comments on the demand for medical services. The survey has also been conducted to provide a review of the medical manpower situation, as a part of a national survey being undertaken by the Dominion Department of Labor to assemble authentic information on future employment opportunities for university-trained personnel in Canada.

PB L 74743. COLOGNE, GERMANY. UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel M 183, Frames 654-1395). 1933-1939. 742 f. Price: Microfilm-$6.00 - Enlargement print-$74.25

The theses reproduced on this FIAT microfilm reel cover the following fields: Physics, chemistry, and mathematics. Individual items are listed below and will be available as enlargement prints only. Please include PB and frame numbers when ordering particular theses from this reel. In German.

Frames	Title	Price
654-686 PB L 74743	The effective cross section of several elements for slow	

electrons. By K. H. Lauterjung, n. d. In German. $3.50

689-878 PB L 74743 — Colloid-chemical properties of polystyrene-and polybutadiene latices. By L. J. Lohmann, n. d. In German. 19.00

879-936 PB L 74743 — On the numbers which can be represented by the expression $aJ + Kb^J + K^2c^J + J\,Kabc$. By R. Mönkemeyer, 1933. In German. 6.00

937-1014 PB L 74743 — Analytical studies by means of the mercury dropping electrode for the determination of vanadium, chromium, molybdenum and tungsten. By K. Osterloh, n. d. In German. 8.00

1015-1120 PB L 74743 — Diene synthesis, substituting addition, and copolymerization of the indene type. By F. Pascher, n. d. In German. 11.00

1121-1166 PB L 74743 — Fluctuations of field intensity of ionosphere echoes. By L. Prior, n. d. In German. 5.00

1167-1222 PB L 74743 — On the absorption of D-neutrons. By G. Rehmann, n. d. In German. 6.00

1223-1269 PB L 74743 — Contribution to the knowledge of the substituting addition of cyclic olefins. By A. Schmitz. In German. 5.00

1270-1349 PB L 74743 — Contributions to the stratigraphy and tectonic of the red sandstone of Mechernich. By R. Schöser, n. d. In German. 8.00

1350-1395 PB L 74743 — Size and charge of the particles in polystyrene and butadiene latices. By G. Sinn, 1939. In German. (Only 44 pages of this thesis are contained on this reel; the missing pages can be found on FIAT Microfilm Reel M 184 (PB L 74756). 5.00

PB L 74756. COLOGNE, GERMANY, UNIVERSITY. A collection of doctors' theses. (FIAT Microfilm Reel M 184, Frames 1396-1751). 1942-1944. 356 f. Price: Microfilm-$4.50 - Enlargement print-$36.00
The theses reproduced on this FIAT microfilm reel cover the following fields: Physics, chemistry, mathematics, and zoology. Individual items are listed below and will be available as enlargement prints only. Please include PB and frame numbers when ordering particular theses from this reel. In German.

Frames	Title	Price
1396-1426 PB L 74756	Size and charge of the particles in polystyrene and butadiene latices. By G. Sinn, 1939. (This is the continuation of the thesis reproduced on frames 1350-1395 of FIAT Microfilm Reel M 183 (PB L 74743). In German.	$3.50
1427-1464 PB L 74756	Filtering effect and resonance absorption in thermal neutrons. By W. Stupp, n. d. In German.	4.00
1465-1551 PB L 74756	Contribution to the knowledge of the diene synthesis of diphenyl fulvene. By W. Trimborn, n. d. In German.	9.00
1552-1619 PB L 74756	The behavior of the dielectric constant and the dielectric loss angle in the expansion of raw and vulcanized natural rubber. By J. Uelpenich, 1942. In German.	7.00
1620-1665 PB L 74756	A. Diene synthesis and substituting addition for the type of indene and partially hydrogenated naphthalene. B. New contributions to the stereo chemistry of the diene synthesis. By H. Vagt, n. d. In German.	5.00
1666-1737 PB L 74756	Contributions to the periodic system of boundary values and proof of completeness. By T-S. Wang. 1944. In German.	7.50
1738-1751 PB L 74756	Studies on the rational specific action of abnormal inductors. By W. Westerhoff, n. d. In German.	1.50

PB L 73963. I. G. FARBENINDUSTRIE A. G., BITTERFELD. Economic and technological reports on eastern European countries including Poland, Rumania, Czechoslovakia, U.S.S.R., and Turkey, Norway, France, U.S.A. and Canada and Far East. (FIAT Microfilm Reel AA-210, Frames 709-1774). 1939. 1066 f. Price: Microfilm-$6.00 - Enlargement print-$107.00
This reel prepared by FIAT investigators in Germany contains economics reports. Individual items are listed below and will be available in enlargement prints. Please include PB and frame numbers when ordering individual items. In German.

Frames	Title	Price
709-721 PB L 73963	Report on the "Verein für Chemie und metallurgische Produktion, Prag." In German.	1.50
722-755 PB L 73963	Minerals in the Caucasus (excluding gasoline). In German.	3.50
756-783 PB L 73963	The most important mineral deposits and metallurgical plants in Norway. In German.	3.00
784-789 PB L 73963	The economic structure and economy of Turkey. In German.	1.50
790-794 PB L 73963	Foreign trade of the U.S.A. with U.S.S.R. In German.	1.50
795-800 PB L 73963	Location of the main chemical plants in Poland. In German.	1.50
801-804 PB L 73963	Manufacture and foreign trade of U.S.S.R. with important raw materials, semi-manufactured goods and finished merchandise during 1938. In German.	1.50
805-825 PB L 73963	Foreign trade of U.S.S.R. with chemical products. In German.	2.50
826-831 PB L 73963	Rubber industry in the U.S.S.R. In German.	1.50
832-846 PB L 73963	Views on the development of the calcinated soda industry in the U.S.S.R. by B. L. Gutermann. In German.	1.50
847-866 PB L 73963	The economic structure of Rumania considering territorial changes. In German.	3.00
867-1058 PB L 73963	Important chemical plants in France. In German.	19.50
1059-1063 PB L 73963	Canadian Industries Ltd. In German.	1.50
1064-1368 PB L 73963	Travel report on East Asia, dated 1934-1935: First vol. Japan and Manchuria, by Max Ilgner. In German.	31.50
1369-1409 PB L 73963	Relations with Solvay and Co., Bruxelles. In German.	4.50

Miscellaneous (contd)

1710-1715 PB L 73963	Travel report on East Asia dated 1934-1935. Third vol. Southeast Asia by Max Ilgner. In German.	$1.50
1716-1736 PB L 73963	Important chemical plants in Alsace-Lorraine. In German.	2.50
1737-1774 PB L 73963	Interests of the Tata group in British India. In German.	4.00

PB L 73451. KARLSRUHE, GERMANY, COLLEGE OF ENGINEERING. A collection of doctors' theses. (FIAT Microfilm Reel M 83, Frames 2646-3542). 1939-1944. 626 frames. Price: Microfilm-$6.00 - Enlargement print-$63.00. The documents reproduced on this FIAT microfilm reel cover the following fields: Electrical engineering, civil engineering, chemistry, geography, agriculture, etc. Individual items are listed below and will be available as enlargement prints only. Please include PB and frame numbers when ordering particular items from this reel. In German.

Frames	Title	Price
2646-2683 PB L 73451	Measurements of the dielectric properties of ceramic insulating materials in the range of centimeter waves. By W. Masters, 1942. In German.	4.00
2684-2773 PB L 73451	The behavior of acetaldehyde in condensation reactions. By H. W. Lotterhos, 1941. In German.	9.00
2774-2944 PB L 73451	These frames are missing.	
2945-3098 PB L 73451	Studies on the girder floor system based on the Karlsruhe floor system. By J. Schüttgen, 1941. In German.	16.50
3099-3172 PB L 73451	Process in the rapid adiabatic compression of combustible gas mixtures. By H. Sinn, 1941. In German.	7.50
3173-3239 PB L 73451	Dielectric determination of the adsorption of gases and vapors on solid adsorbents. By H. Vollmar, 1939. In German.	7.00
3240-3307 PB L 73451	New contributions to a short computation of rotational vibrations by means of an "equivalent mass". By R. Arnold, 1944. In German.	7.00
3308-3364 PB L 73451	A polyconic zone-true design for the representation of half the earth's surface. By H. Breunig, 1944. In German.	6.00
3365-3406 PB L 73451	Studies on Croatian tobaccos and on the conditions of their life. By P. Bucovac, 1944. In German.	4.50
3407-3472 PB L 73451	The heat transfer coefficient of evaporating ammonia in a vertical tube. By W. Gleis, 1944. In German.	7.00
3473-3542 PB L 73451	Studies on drying by means of atomizing. By C. Edeling, 1944. In German.	7.00

PB L 73451-S. KARLSRUHE, GERMANY, COLLEGE OF ENGINEERING. A collection of doctors' theses. (FIAT Microfilm Reel M 83, Frames 2646-3542, abstract cards). 1939-1944. 19 p. Price: Microfilm-$1.00 - Photostat-$2.00
These are short abstracts of the items on reel M 83 (PB 73451), described above. They were prepared by FIAT abstracters in Germany.

* PB L 79589. LAIBACH, FRIEDRICH. The influence of length-of-day and other factors on the flowering of sellaginella martensii spr. (FIAT Rept 1093). Apr 1947. 27 p. Price: Mimeo-$0.75
Experiments show that the flowering of the above fern is affected by the duration of daylight to the extent that it takes place at all only when there is a day-and-night cycle, and flowering is earlier and more intense on a short day (eight hours) cycle than on a long day (sixteen hours) cycle. Flowering is also inhibited in seedling cultures and by high atmospheric humidity. High light intensity favors flower-formation. The significance of these results, which are one of the first proofs of photoperiodicity of spore-bearing plants, is discussed. In German.

* PB L 81615. MORRIS, D. B. German lock and key industry. (BIOS Final Rept 1438, Item 36). Jul 1946. 45 p. Price: Microfilm-$2.00 - Photostat-$5.00
This report gives a summary of the industry as a whole, describing: factory and labor conditions, material and machinery used, and production methods. Appendix A contains a brief individual report on nine lock manufacturing firms; Appendix B the same on four key manufacturing firms; and Appendix C the same on two manufacturers of special lock making machinery.

PB L 73986. MINISTERIAL DOCUMENTS BRANCH, BERLIN. Reports on mining and textile products. (FIAT Microfilm Reel B 214, Frames 1-870). 1943-1944. 870 f.
Price: Microfilm-$6.00 - Enlargement print-$87.00
This film, prepared by FIAT investigators in Germany, contains reports from 1943-1944 on the subjects mentioned below. Individual items will be available as enlargement prints only; the entire reel may be purchased for $6.00. Please include PB and frame numbers when ordering individual items from this microfilm reel. Drawings, photographs, tables of data, and graphs are included. In German.

Frames	Titles	Price
1-41 PB L 73986	Preussische Bergwerks- und Hütten Ag., Berlin. Reports on the operation of smelting works in Slovakia. In German.	$4.50
42-129 PB L 73986	Reports on improvements in coke plants with drawings pertaining thereto; grinding of coal with pyrite elimination; experiments with fine coal centrifuge; substitute working-materials in the potassium industry. In German.	9.00
130-166 PB L 73986	Informations from the research institutes of German machine factories concerning innovations on locomotives, machine tools, universal strength testing machines in foundry and metallurgy. In German.	4.00
167-635 PB L 73986	Type book and research reports on properties and kinds of spun rayon and other textiles. Textile manufacturing instructions and minutes of meetings on textile products. In German.	47.00
636-870 PB L 73986	Production, instructions, test results, and general correspondence on textiles. In German.	23.50

PB L 79207. NABERT, K. and GERDESSEN, P. On the suitability of water for extinguishing large alcohol fires. (Translated from Feuerschutztechnik no. 3, 1941) 1941. 22 p. Price: Microfilm-$1.00 - Photostat-$2.00
An investigation was carried out in cooperation with the Berlin Fire Department to determine the necessary requirements for extinguishing devices and the factors to be considered in the construction of alcohol storage tanks. Diagrams of test equipment and graphs are included.

PB L 80663. NATIONAL ACADEMY OF SCIENCES. COMMITTEE ON SENSORY DEVICES. Research on guidance devices for the blind. Progress report between Feb 15, 1944 and Dec 1, 1946. (Committee on Sensory Devices Rept 47-1). Dec 1946. 215 p. Price: Microfilm-$5.00 - Photostat-$15.00
Studies on sensory devices have been in progress at the Haskins Laboratories since Feb., 1944. The program of work falls broadly into three categories: 1) guidance devices, 2) reading machines, 3) cooperation with the Armed Services and certain other extra-mural agencies. This report concerns itself with the first category and to some extent with the third. The text is supplemented by photographs, sketches, diagrams and tables.

PB L 79339. NAUTICAL almanac and astronomical ephemeris for the year 1948, for the meridian of the Royal Observatory at Greenwich. (British Commonwealth Scientific Office Rept 54-D2-10). Sep 1946. 631 p. Price: Microfilm-$13.00 - Photostat-$43.00

PB L 61589. OUTLINE for setting up a combat order. Conditions during the alert. Continuous supplement No. 1 for naval warfare (S.A.). Part III. Tactics of weapons. Issue a: General directives. Jan 1944. 27 p. Price: Microfilm-$1.00 - Photostat-$2.00
This is an incomplete copy containing a table and various directions covering important points giving catch words for an official combat order including observation, orientation, and precautionary measures. In German.

PB L 79323. SUPREME COMMANDER FOR THE ALLIED POWERS. EDUCATION DIVISION. Education in Japan. Feb 1946. 141 p. Price: Microfilm-$3.00 - Photostat-$10.00
This brochure has been compiled as an information handbook for members of the American Education Mission and for education officers throughout Japan. An effort has been made to record very briefly the story of the historical development of Japanese education; to describe the national school system as it existed in 1937; to outline the war-time modifications; to set forth the policies and objectives of the Supreme Commander for the Allied Powers in regard to educational rehabilitation; and to show what steps have been initiated by occupation authorities and the Japanese Ministry of Education to implement these policies and objectives.

PB L 79602. U. S. WAR DEPARTMENT. Dictionary of spoken Russian: English-Russian, Russian-English. (Tech Manual 30-944). Nov 1945. 576 p. Price: Microfilm-$12.00 - Photostat-$39.00
The dictionary has an English-Russian side consisting of four thousand common word entries, together with sub-entries (phrases and idioms) and illustrative sentences. The Russian-English side consists of 7,700 word entries, with sub-entries and illustrative sentences. In addition the dictionary contains a grammatical summary of Russian to which irregularly inflected Russian words are coded, and appendices dealing with weights and measures, signs, proper names, foods, holidays, etc.

PB L 80583. U. S. WAR DEPARTMENT. Engineer maintenance troops. (Tech Manual 5-400). May 1945. 70 p. Price: Microfilm-$2.00 - Photostat-$5.00 (Available from the Supt of Docs. Washington 25, D. C., 25¢).
This manual concerns maintenance of engineering equipment including all preventive and restorative measures taken to insure its continued and efficient use. Schematic diagrams, samples of order blanks, work and time sheet, etc., are included.

PB L 80900. U. S. WAR DEPARTMENT. Informal games for soldiers. (Tech Manual 21-221) Dec 1943. 58 p. Price: Microfilm-$2.00 - Photostat-$4.00 (Available from the Supt of Docs., Washington 25, D. C., 25¢)

PB L 80585. U. S. WAR DEPARTMENT. Kitchen cars: Supplies, equipment, and rations. (Tech Manual 10-206) Jun 1945. 50 p. Price: Microfilm-$1.00 - Photostat-$4.00 (Available from the Supt of Docs., Washington 25, D. C., 20¢)
The purpose of this manual is to prescribe uniform procedures pertaining to supply and equipment of kitchen cars, particularly those serving group movements of casuals. Layout for kitchen cars, and construction of packing boxes are illustrated and menus are prescribed.

PB L 80615. U. S. WAR DEPARTMENT. Operation of the remount breeding service. (Tech Manual 10-390). Feb 1941. 43 p. Price: Microfilm-$1.00 - Photostat-$3.00 (Available from the Supt of Docs. Washington 25, D. C., 15¢).

PB L 80626. U. S. WAR DEPARTMENT. Quartermaster handbook: Car company. (Tech Manual 10-470). Jul 1943. 100 p. Price: Microfilm-$2.00 - Photostat-$7.00 (Available from the Supt of Docs. Washington 25, D. C., 65¢).
The Quartermaster Car Company is a separate company composed of four platoons and a company headquarters. The company functions under the direction of army headquarters. The mission of the company is to furnish motor transportation and messenger service for the headquarters served.

PB L 80916. U. S. WAR DEPARTMENT. Small Army libraries (Tech Manual 28-305) Nov 1944. 29 p. Price: Microfilm-$1.00 - Photostat-$2.00 (Available from the Supt of Docs., Washington 25, D. C., 10¢)

PATENTS

ELECTRICAL MACHINERY, EQUIPMENT, AND SUPPLIES

PB L 80842. ROLF, ERICH (Inventor). Rectifier device with movable contacts. (Ger. patent 749 816, dated Dec 22, 1944; application dated Oct 2, 1940) 21 p. Price: Microfilm-$1.00 - Photostat-$2.00
This patent is translated into English. Drawing included.

PB L 80841. SIEMENS-SCHUCKERT WERKE, SIEMENSSTADT-BERLIN. Arrangement for and method of controlling mechanical contact converters. (Ger. patent 735 368, dated May 13, 1943; application S 142275 VIIId/21d3, dated Sep. 14, 1940) May 1943. 9 p. Price: Microfilm-$1.00 - Photostat-$1.00
Inventor: Koppelmann. This patent is translated into English. Drawing included.

PB L 70083. REICHSPATENTAMT, BERLIN. German patent applications class 21; Electrical engineering, Electronic equipment. (FIAT Microfilm Reel D 48, frames 9406-9999 and frames 1-389). 1934-1945. 974 f. Price: Microfilm -$6.00 - Enlargment print-$97.00
This FIAT microfilm reel consists of 170 patent applications on electronic equipment. Individual items are listed below and will be available as enlargement prints only; the entire reel may be purchased in microfilm form for $6.00. Please include PB and frame numbers when ordering individual items from this reel. These documents are all in German. Many of these applications include drawings.

Frames	Title	Price
9406-9407 PB L 70083	WALLRAM, (Inventor). Method of producing permanent magnets. German patent application W 112, 680 VIIIc/21g, dated July 12, 1943. In German.	$1.50
9408-9415 PB L 70083	UHER & CO, GESELLSCHAFT FUER APPARATEBAU, MUNICH. Electric contact arrangement, preferably for contact instruments or relays. Ger. patent appl. U 11 754 dated Sep 9, 1942. In German.	1.50

9416-9420 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SEIMENSTADT. Method of producing capacitors with maximum specific capacitance. Ger. patent appl. S 154 548, dated Mar 11, 1945. In German. 1.50

9421-9425 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Method of producing capacitors with maximum specific capacitance. Ger. patent appl. S 154 547 dated Mar 11, 1943. In German. 1.50

9426-9428 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Capacitor with an aluminum-oxide coating produced on an aluminum layer as dielectric. Ger. patent appl. S 154 546 dated Mar 11, 1943. In German. 1.50

9429-9431 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Vacuum tube. Ger. patent appl. 154 597 VIIIc/21g, dated Mar 13, 1943. In German. 1.50

9432-9436 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Anode for vacuum tubes. Ger. patent appl. S 154 596 VIIIc/21g, dated Mar 13, 1943. In German. 1.50

9437-9440 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Method of producing vacuum tubes. Ger. patent appl. S 154 595 VIIIc/21g, dated Mar 13, 1943. In German. 1.50

9441-9443 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Supporting arrangement for electrodes (in thyratrons). Ger. patent appl. S 154 593 VIIIc/21g, dated Mar 13, 1943. In German. 1.50

9444-9447 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Vacuum tube for very short waves, especially decimetric waves. Ger. patent appl. S 154 592 dated Mar 13, 1943. In German. 1.50

9448-9453 PB L 70083 MUELLER, C.H.F., AG, ROENTGENWERK, HAMBURG. X-ray tube anode. Ger. patent appl. M 154 736 VIIIc/21g, dated Jul 7, 1942. In German. 1.50

9454-9456 PB L 70083 MUELLER, C.H.F., AG, ROENTGENWERK, HAMBURG. Rotary anode for X-ray tubes. Ger. patent appl. M 155 072 VIIIc/21g, dated Aug. 14, 1942. In German. 1.50

9457-9463 PB L 70083 MUELLER, C. H. F., ROENTGENWERK, HAMBURG. X-ray arrangement. Ger. patent appl. M 151 513 VIII c/21g, dated Jul 31, 1941. In German. 1.50

9464-9478 PB L 70083 MARX, ERWIN, (Inventor). High pressure arc-type rectifier with several sections. Ger. patent appl. M 150 296 VIIIc/21g, dated Mar 18, 1941. In German. 1.50

9479-9484 PB L 70083 MUELLER, C.H.F., AG. BERLIN. Rectifier for high-voltage installations. Ger. patent appl. M153 371 VIIIc/21g, dated Mar 18, 1942. In German. 1.50

9485-9494 PB L 70083 WEISSMANN (Inventor). Method and device for the rapid heating of filaments. Ger. patent appl. W 110 270 VIIIc/21g, dated Jan 15, 1942. In German. 1.50

9495-9506 PB L 70083 WEISSMANN (Inventor). Arrangement for the rapid heating of the filaments of vacuum tubes and lamps by a current intensity greater than that of the operating current. Ger. patent appl. W 110 270 VIIIc/21g, dated Mar. 14, 1945. In German. 1.50

9507-9512 PB L 70083 SIEMENS & HALSKE AG, BERLIN-SIEMENSSTADT. Corpuscular radiation apparatus. Ger. patent appl. S 154 576 VIII c/21g, dated Mar 12, 1943. Addition to patent appl. S 150 887 VIIIc/21g. In German. 1.50

9513-9522 PB L 70083 (Source missing). Electrode arrangement with rotating electrodes. Ger. patent appl. L 113 147 VIIIc/21g, n.d. In German. 1.50

9523-9527 PB L 70083 (Source missing). Highly sensitive relay arrangement. Ger. patent appl. L 113 146 VIIIc/21g, dated Nov. 16, 1943. In German. 1.50

9528-9531 PB L 70083 (Source missing). Relay circuit with an exciting element responding to a magnitude. Ger. patent appl. L 113 145 VIIIc/21g, dated Nov. 15, 1943. In German. 1.50

9532-9537 PB L 70083 SIEMENS-SCHUCKERTWERKE AG., BERLIN-SIEMENSSTADT. Piston type damping pump for electric devices. Ger. patent appl. S 158 951 VIIIc/21g, dat dated Mar 9, 1944. In German. 1.50

9538-9541 PB L 70083 JUNG-ZAEPER, CURT (Inventor). Vacuum tube with several getter pots in symmetrical arrangement. Ger. patent appl. L 112 389 VIIIc/21g, dated Aug. 7, 1943. In German. 1.50

9542-9546 PB L 70083 SIEMENS-SCHUCKERTWERKE AG., BERLIN-SIEMENSSTADT. Arrangement for the control of vacuum tubes. Ger. patent appl. S 154 252 VIIIc/21g, dated Feb 18, 1943. In German. 1.50

9547-9550 PB L 70083 SIEMENS-REINIGER WERKE A.G. Container for X-ray tubes which is high-voltage proof and filled with an insulating material. Ger. patent appl. S 154 602 VIIIc/21g, dated Mar 15, 1943. In German. 1.50

9551-9557 PB L 70083 TELEFUNKEN G.M.B.H., BERLIN-ZEHLENDORF. Cathode-ray tube with a circularly deflected beam. Ger. patent appl. T 57 799 VIIIc Dated Aug 3, 1942. In German. 1.50

9558-9562 PB L 70083 TELEFUNKEN G.M.B.H., BERLIN-ZEHLENDORF. Band rejection filter for very high frequencies. Ger. patent appl. T 57 776 dated Jul 29, 1942. In German. 1.50

9563-9565 PB L 70083 TELEFUNKEN G. M. B. H., BERLIN-ZEHLENDORF. Variable capacitor. Ger. patent appl. T 57 586 VIIIc/21g, dated Jun 19, 1942. In German. 1.50

9566-9572 PB L 70083 SCHUMANN (Inventor). Control grid for gas and vapor discharge tubes. Ger. patent appl. Sch 114 770 VIIIc/21g, dated Jan 18, 1938. Addition to patent appl. Sch 111 768 VIIIc/21g. In German. 1.50

9573-9579 PB L 70083 OHRT, PAUL (Inventor). Device for extinguishing burning arcs. Ger. patent appl. Sch 110 488 VIIIc/21g, dated Jul 21, 1936. Addition to patent appl. Sch 107 291 VIIIc/21g. In German. 1.50

9580-9584 PB L 70083 VEREINIGTE TELEFON- UND TELEGRAFENWERKE, VIENNA. Method of producing tight housings for capacitors suitable for high altitudes and a capacitor produced according to this method.

Ger. patent appl. V 39 760 dated Feb. 23, 1943. In German. 1.50

9585-9589 PB L 70083 TELEFUNKEN G.M.B.H., BERLIN -ZEHLENDORF. Electric discharge tube with a metal envelope. Ger. patent appl. T 58 730 VIIIc/21g, dated Feb. 13, 1943. In German. 1.50

9590-9592 PB L 70083 SCHUMANN, W.O. (Inventor). Device for extinguishing burning arcs. Ger. patent appl. Sch 110 415 VIII c/21g, dated Jul 13, 1936. In German. 1.50

9593-9596 PB L 70083 (Source missing). Electromagnet with a revolving armature in the shape of a double-armed lever. Ger. patent appl. T 58967 VIIIc/21g, dated Apr 10, 1943. In German. 1.50

9597-9602 PB L 70083 TRENTINI, ORESTE (Inventor). Death ray equipment. Ger. patent appl. T 58 958 dated Apr 9, 1943. In German. 1.50

9603-9610 PB L 70083 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Electron multiplier. Ger. patent appl. S 134 000 VIIIc/21g, dated Sep wr, 1938. In German. 1.50

9611-9614 PB L 70083 LOEWE, RADIOAKTIENGESELISCHAFT D.S., BERLIN-STEGLITZ. Saw-tooth generator. Ger. patent appl. R 91 060 VIIIc/21g, dated Jul 20, 1934. In German. 1.50

9615-9623 PB L 70083 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Secondary electron multiplier tube. Ger. patent appl. S 138 440 VIII c/21g, dated Aug. 28, 1939. In German. 1.50

9624-9631 PB L 70083 SIEMENS REINIGER WERKE A.G. Reflector for electromagnetic radiation of a frequency between 10^8 and 3.10^9 cycles for the treatment of substances and biological tissues in the proximity field of the radiator. Ger. patent appl. S 138 521 VIIIc/21g, dated Sep 2, 1939. In German. 1.50

9632-9638 PB L 70083 SIEMENS REINIGER WERKE A.G. Arrangement for the transmission of electromagnetic radiation of a frequency between 10^8 and 10^{10} cycles onto substances and biological tissues arranged in the proximity field of the radiator for the purpose of their treatment. Ger. patent appl. S 138 523 VIIIc/21g, dated Sep 2, 1939. In German. 1.50

9639-9643 PB L 70083 SIEMENS & HALSKE A.G., BERLIN-SIEMENSSTADT. Electric contact. Ger. patent appl. S 138 531 VIIIc/21g, dated Sep 1, 1939. In German. 1.50

9644-9649 PB L 70083 RADIO MENDE & CO. DRESDEN. Gang capacitor. Ger. patent appl. R 109 199 dated Jan 25, 1941. In German. 1.50

9650-9651 PB L 70083 (Source missing). Gas phototube. Ger. patent appl. R 109 229 VIIIc/21g, dated Jan 31, 1941. In German. 1.50

9652-9658 PB L 70083 (Source missing). Procedure for the electric welding of metal envelopes with metallic end plates in the manufacture of vacuum tubes. Ger. patent appl. R 109 264 VIIIc/21g, dated Feb 4, 1941. In German. 1.50

9659-9665 PB L 70083 (Source missing). Circuit arrangement for the generation of saw-tooth currents or voltages. Ger. patent appl. R 109 268 dated Feb. 5, 1941. In German. 1.50

9666-9673 PB L 70083 RADIO MENDE & CO,. DRESDEN. Tubular capacitor, the active layers of which consist of foils, especially aluminum foils. Ger. patent appl. R 109 282 dated Feb 7, 1941. In German. 1.50

9674-9678 PB L 70083 (Source missing). Secondary electron multiplier. Ger. patent appl. R 109 327 dated Feb 6, 1941. In German. 1.50

9679 PB L 70083 PAPE, CARL, (Inventor). Electromagnetic plunger-coil system for weak direct and alternating currents. Ger. patent appl. P 86 025 VIIIc/21g, dated Apr 27, 1943. Addition to patent application P 85 431. In German. 1.50

9680-9682 PB L 70083 (Source missing). Arrangement of rectifiers with switchboards. Ger. patent appl. P 86 059 VIIIc/21g, dated Apr 30, 1943. In German. 1.50

9683-9686 PB L 70083 PATENT TREUHAND G.M.B.H., BERLIN. Electric glow tube with sheet metal electrodes and a positive electrode for voltage regulation. Ger. patent appl. P 87 315 VIIIc/21g, dated Feb 11, 1944. In German. 1.50

9687-9693 PB L 70083 MAYR-MELNHOF, FRANZ (Inventor). Arrangement for the intermittent interruption of an electric circuit. Ger. patent appl. M 152 298 VIIIc/21g, dated Nov. 1, 1941. In German. 1.50

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8349-8355 PB L 70082	SIEMENS-SCHUCKERTWERKE A. G., BERLIN. Circuit arrangement for controlling electric currents as a function of the intensity of the lighting. Ger. patent application S 123 010 VIIIc/21g, 4/06, dated Jun 12, 1940. In German.	1.50
8356-8359 PB L 70082	RADIO H. MENDE & CO., DRESDEN. Variable capacitor, the movable plates of which are fastened to a common shaft. Application for patent of addition R 110 954 to application R 107 937 VIIIc/21g, 10/06, dated Sep 5, 1941. In German.	1.50
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8375-8387 PB L 70082	MARX, ERWIN (Inventor). Arrangement for arc-type rectifiers, switches or the like. Ger. patent application M 120 944 VIIIc/21g, 11, dated Jun 3, 1936. In German.	1.50
8388-8395 PB L 70082	TELEFUNKEN G.M.B.H., BERLIN. Method of producing discharge tubes. Ger. patent application T 47 853 VIIIc/21g, dated Dec 3, 1936. In German.	1.50
8396-8399 PB L 70082	TELEFUNKEN G.M.B.H., BERLIN. Arrangement for ultrashort-wave tubes. Ger. patent application T 59 788 21g, dated Nov 24, 1943. In German.	1.50
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8410-8414 PB L 70082	JUNG-ZAEPER, CURT (Inventor). Grid arrangement for vacuum tubes. Ger. patent application without number, dated Jul 12, 1944. In German.	1.50
8415-8420 PB L 70082	JUNG-ZAEPER, CURT (Inventor). Cathode arrangement for vacuum tubes. Ger. patent application without number, dated Jul 4, 1944. In German.	1.50
8421-8427 PB L 70082	FIRING arrangement for high-pressure arc-type rectifiers. (Marx rectifiers). Ger. patent application L 115 103 VIIIc/21g 11/03, dated Jul 14, 1944. In German.	1.50
8428-8429 PB L 70082	STUDIENGESELLSCHAFT FUER RADIOTECHNIK. Capacitors for strong and weak currents with a dielectric constant higher than 100. Ger. patent application St 63 311, dated Jul 19, 1943. In German.	1.50
8430-8434 PB L 70082	TELEFUNKEN G.M.B.H., BERLIN. Sawtooth generator. Application for patent of addition T 51 857 to application T 51 461 VIII a/21 a1, dated Feb 25, 1939. In German.	1.50
8435-8439 PB L 70082	TELEFUNKEN G.M.B.H., BERLIN. Discharge tube. Ger. patent application T 51 464 VIIIc/21g, dated Mar 1, 1939. In German.	1.50
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8454-8455 PB L 70082	THIEDE, GEORG (Inventor). Method of producing an electric arc for irradiation purposes. Ger. patent application T 59 881 VIIIc/21g, dated Dec 16, 1943. In German.	1.50
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8472-8479 PB L 70082	METHOD of producing grids wound on supports for vacuum tubes. Ger. patent application R 109 010 VIIIc/21g, dated Dec 24, 1940. In German.	1.50
8480-8485 PB L 70082	MAGNETRON arrangement. Ger. patent application R 108 994, dated Dec 19, 1940. In German.	1.50
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9193-9194 PB L 70082 REUTER, WERNER (Inventor). Device for determining the presence of metal in wood. Ger. patent application R 114 515 VIIIc/21g, dated Oct 29, 1942. In German. 1.50

9195-9198 PB L 70082 ELECTROMECHANICAL precision switch, especially for low frequencies. Ger. patent application R 111 162 VIIIc/21g, dated Oct 2, 1942. In German. 1.50

9199-9209 PB L 70082 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Single-anode discharge tube. Ger. patent application S 136 632 VIIIc/21g, 14, dated Apr 21, 1941. In German. 1.50

9210-9215 PB L 70082 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Arrangement for controlling vapor-discharge tubes by means of a firing electrode of resistance material which is in constant conductive contact with the liquid cathode. Ger. patent application S 137 752 VIIIc/21g, Gr 14, dated Jul 6, 1939. In German. 1.50

9216-9219 PB L 70082 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Method of encasing the coils of meters or the like by means of a shrinking cover of insulating material. Ger. patent application S 136 582, dated Mar 31, 1939. In German. 1.50

9220-9228 PB L 70082 SIEMENS-REINIGER-WERKE A. G. Arrangement for determining the high-frequency energy resulting in an object from the treatment with short or ultrashort waves. Application for patent to addition S 134 711 VIIIc/21g to patent S 127 991 VIIIc/21g, Gr 24/02, dated Nov 23, 1938. In German. 1.50

9229-9234 PB L 70082 REUSSE, WILH., and RIPPER, NIKOLAUS (Inventors). Ultrahigh-frequency tube. Ger. patent application R 115 837, dated Apr 6, 1943. In German. 1.50

9235-9236 PB L 70082 GRID-controlled arc-type discharge vessel. Ger. patent application Sch 111 999 21g, dated May 23, 1940. In German. 1.50

9237-9240 PB L 70082 SCHAUB, GEORG V. (Inventor). Arrangement for regulating the capacitance of a capacitor. Ger. patent application Sch 111 106 21g, dated Aug 24, 1941. In German. 1.50

9241-9245 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Variable capacitor with electrodes,

the wall thickness of which shows a conical cross-section. Ger. patent application T 55 543, dated May 20, 1941. In German. 1.50

9246-9251 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Band-pass filter of variable width for ultrashort waves. Ger. patent application T 55 541, dated Apr 28, 1941. In German. 1.50

9252-9255 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Rigid support for structural parts of a discharge tube. Ger. patent application T 55 032 VIIIc/21g, 13/10, dated Feb 28, 1941. In German. 1.50

9256-9259 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Variable gang capacitor. Ger. patent application T 56 423, dated Nov 5, 1941. In German. 1.50

9260-9262 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Photoelectric emission according to patent. Application for patent of addition T 56 403 VIIIc/21g, to patent application T 54 803, dated Oct 28, 1941. In German. 1.50

9263-9266 PB L 70082 TELEFUNKEN G.M.B.H., BERLIN. Vacuum tube without base. Ger. patent application T 55 696 VIIIc/21g, dated Jun 13, 1941. In German. 1.50

9267-9271 PB L 70082 AUXILIARY grid, as a protection for the control grid against dispersion, in vacuum discharges, the quenching and firing of which are controlled. Ger. patent application Sch 127326 VIIIc/21g 12, dated Apr 29, 1943. In German. 1.50

9272-9277 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Magnetic conductor composed of at least two metal strips or sheets of differing magnetic properties. Ger. patent application S 133 999 VIIIc/21g, dated Sep 6, 1940. In German. 1.50

9278-9285 PB L 70082 SIEMENS APPARATE U. MASCHINEN G.M.B.H., BERLIN. Automatically operating device for controlling the heating of the hot cathode of grid-controlled gas or vapor filled discharge tubes. Ger. patent application S 138 174 VIIIc/21g, dated Oct 31, 1941. In German. 1.50

9286-9291 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Winding arrangement, especially for high-frequency purposes. (Premagnetizable high-frequency iron-core coil). Ger. patent application S 138 127 VIIIc/21g, dated Aug 1, 1939. In German. 1.50

9292-9303 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Arrangement for improving the constancy of the cathode properties of vacuum tubes. Ger. patent application S 138 120 VIIIc/21g, dated Aug 2, 1939. In German. 1.50

9304-9308 PB L 70082 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Method of producing the semiconductive layer of dry-disk rectifiers, especially selenium rectifiers. Ger. patent application S 139 195, dated Nov 14, 1939. In German. 1.50

9309-9314 PB L 70082 SIEMENS SCHUCKERTWERKE A. G., BERLIN. Method of producing electric dry-disk rectifiers. Ger. patent application S 139 194 VIIIc/21g, 11/02, dated Nov 14, 1939. In German. 1.50

9315-9323 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Method of producing a tube with a metal envelope. Ger. patent application S 136 447 VIIIc, dated Mar 22, 1939. In German. 1.50

9324-9329 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Vacuum tube. Ger. patent application S 136 293 VIIIc/21g, dated Mar 13, 1939. In German. 1.50

9330-9335 PB L 70082 MUELLER C.H.F., A. G., BERLIN. Arrangement for the operation of X-ray tubes. Ger. patent application M 153 504 VIIIc/21g, dated Mar 9, 1942. In German. 1.50

9336-9339 PB L 70082 MINERVA RADIO, WIEN. Tuning arrangement. Shaft bearing for variable capacitors or the like. Ger. patent application M 154 798, dated Jul 15, 1942. In German. 1.50

9340-9347 PB L 70082 MUELLER C. H. F., A. G., BERLIN. X-ray tube with a rotary anode for a-c operation. Ger. patent application M 151 927 VIIIc/21g, dated Mar 31, 1942. In German. 1.50

9348-9351 PB L 70082 MAGNET-SCHULTZ G.M.B.H., MEMMINGEN. Electromagnet sealed against liquid and gas super- or sub-pressure. Application for patent of addition M 154 624 VIIIc/21g, to patent application M 154 393 VIIIc/21g, dated Jul 27, 1942. In German. 1.50

9352-9355 PB L 70082 ELECTRON-optical element. Ger. patent application M 154 934 VIIIc, dated Jul 28, 1942. In German. 1.50

9356-9360 PB L 70082 MUECKE, GEORG (Inventor). Irradiation equipment. Ger. patent application M 154 933 VIIIc/21g, dated Jul 29, 1942. In German. 1.50

9361-9371 PB L 70082 MEGADYNE RADIO, TURIN. Push-pull circuit for the magnetic deflection of electron beams. Ger. patent application M 151 558 VIIIc/21g, dated Aug 6, 1941. In German. 1.50

9372-9381 PB L 70082 MUELLER, C.H.F., A. G., BERLIN. Circuit for X-ray apparatus with a voltage above 100 kv. Ger. patent application M 151 560 VIIIc/21g, dated Aug 6, 1941. In German. 1.50

9382-9388 PB L 70082 MESSERSCHMIDT, BERLIN. Hot cathode. Ger. patent application M 151 576 VIIIc, dated Aug 9, 1941. In German. 1.50

9389-9394 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Method of producing capacitors with constant capacitance. Ger. patent application S 143 096 VIIIc/21g, 10/02, dated Feb 5, 1943. In German. 1.50

9395-9400 PB L 70082 SIEMENS & HALSKE A. G., BERLIN. Parallel-plate capacitor with predeterminable temperature-induced capacitance variations. Ger. patent application S 145 789, dated Jun 17, 1941. In German. 1.50

9401-9405 PB L 70082 WILLERS, H. B. (Inventor). Amplitude band filter. Ger. patent application W 113061 VIIIc/21g-34, dated Apr 19, 1943. In German. 1.50

MACHINERY (EXCEPT ELECTRICAL)

PB L 81800. EXTRACTS of German Patent applications: Internal combustion engines. (Class 46). Mar 1947. 712 p. Price: Printed copy-$18.00
An alphabetical list by applicants. In German.

REGISTER OF PATENTS AVAILABLE FOR LICENSING OR SALE

Information on the following patents can be obtained from the U. S. Patent Office, Washington 25, D. C.

The "Groups" appearing after the patent abstracts are based on the Standard Industrial Classification Manual, Vol. 1, Manufacturing Industries, Executive Office of the President, Bureau of the Budget.

Official Gazette, September 16, 1947

PAT. 2,071,599. Tester for internal combustion engines. Patented Feb. 23, 1937.
Apparatus for testing spark plug circuits and coil. It consists in forming a panel with an opening through which a stud projects for supporting a dial with the stud in rotative contact with a ground wire. A meter is mounted in an opening in the dial. A plurality of contacts are mounted through the panel around the opening. When dial is rotated a meter contact on the dial is adapted to selectively engage the contacts. The meter indicates the strength of the current. (Co-owner) W. W. Stillman, 19 Grand Ave., Englewood, N. J. Groups 38--31; 39--11. Reg. No. 8,205.

PAT. 2,285,546. Compression chamber leakage tester. Patented June 9, 1942.
Device not only calibrates the power loss due to leakage but also indicates the point or points of leakage. A suitable housing is provided with a conduit for connection at one end to a source of compressed air and at the other end to an enclosed chamber to be tested. The conduit has a valve at each end and a restricted passage or bleeder near one end. A pressure gage is connected to the conduit near the restricted passage by a branch pipe. When there is a leak in the cylinder being tested air will flow through the conduit and the action of the bleeder will cause a reduction in pressure in the pipe leading to the gage. Such reduction in pressure is measured and indicated on a graduated dial of the gage. Device is compact and inexpensive. (Co-owner) W. W. Stillman, 19 Grand Ave., Englewood, N. J. Groups 38--31; 39--11. Reg. No. 8,206.

PAT 1,914,522. Solvents for cellulose materials. Patented June 20, 1933.
A furan derivative which is a solid at ordinary temperature as, for example, furoic acid, is used as a solvent with cellulose derivatives in the production of lacquers and resins. Quaker Oats Company, 141 West Jackson Blvd., Chicago 4, Ill. Groups 26--11; 26--83; 26--89. Reg. No. 8,207.

PAT 2,007,433. Herbicids. Patented July 9, 1935.
This patent relates to the use of a mixture of furfural and a hydrocarbon distillate less volatile than furfural as, for example, kerosene, and an emulsifying agent such as road oil, as a weed killer. Quaker Oats Company, 141 West Jackson Blvd., Chicago 4, Ill. Groups 26--33; 26--89. Reg. No. 8,208.

PAT 2,310,046. Method of refining sulphate turpentine and tall oil. Patented Feb. 2, 1943.
This patent relates to a process for refining tall oil and sulphate turpentine simultaneously to give a mild odored and light colored tall oil and a pleasant odored turpentine similar in odor to gum turpentine. The process consists in dissolving tall oil in sulfate turpentine and then extracting that solution with furfural preferably countercurrently. Quaker Oats Company, 141 West Jackson Blvd., Chicago 4, Ill. Groups 26--62; 26--63; 26--89. Reg. No. 8,209.

PAT. 2,258,351. Advertising horoscope machine. Patented Oct. 7, 1941.
This patent describes a device by means of which advertising matter is displayed in a novel manner by presentation in combination with daily horoscope readings. The device is a drum-shaped casing enclosing a motor and Geneva movement and carrying an illuminated face decorated with signs of the zodiac and other astrological data. At timed intervals, readings and advertising matter, carried by a master disk, are viewed simultaneously through a window in the face of the casing. Since the year is divided into twelve zodiacal periods, only one of which may be viewed at a time, the observer is required to wait until the reading pertaining to him may be viewed. His waiting period is occupied by reading a series of advertisements which appear. The device may be installed in shopping centers, drug stores, and like establishments. (Owner) Horace O. Brown, Jr., 8039 Hemet Place, Hollywood 46, Calif. Group 39--93. Reg. No. 8,210.

PAT. 2,328,207. Hair drying hood. Patented Aug. 31, 1943.
Helmet with double spaced walls is designed so that in addition to uniformly distributing and circulating hot air over the hair and scalp, cool air may be similarly circulated at conclusion of the drying operation, or at any desired intermediate stage. The inner wall of the helmet is perforated so that hot air discharged into the space between the walls will flow uniformly out through the perforations. For supplying cool air to the scalp a fan enclosed in a housing having a discharge tube is pivotally mounted exteriorly on the helmet. Fan may be held in operative or inoperative position. When lowered to operative position the discharge tube of the fan housing projects into an opening through both walls of the helmet. This opening may be closed when fan is in inoperative position. (Owner) Annie Freeman, 161-32 119th Avenue, Jamaica, Long Island, N. Y. Group 39--91. Reg. No. 8,211.

PAT. 2,260,832. Machine for making sandwiches. Patented Oct. 28, 1941.
This patent presents apparatus for assembling complete sandwiches. A number of rolls may be split simultaneously by movable disc knives and the halves impaled by sharp pins and held apart as food is automatically inserted. Provision may be made to roast or preheat such food articles as frankfurters. The apparatus also includes an arrangement whereby mustard or relish is spread on the sandwich before the sandwich is removed. Modifications are shown in which the disc knives are also used to cut cheese, bread, etc. (Owner) Samuel Deutscher, 3096 Brighton - 6 St., Brooklyn 27, N. Y. Group 35--51. Reg. No. 8,212.

PAT. 2,314,971. Machine for treating furs. Patented Mar. 30, 1943.
A machine for the preliminary treatment of pelts prior to their use in the making of fur garments. The pelts are automatically wetted on the leather side, turned and automatically combed and brushed. A separate attachment for rubbing and stretching the pelts after they have been wetted is also provided. The machine presents a decided advantage over the slow hand method of wetting the pelts with a sponge. (Owner) Samuel Deutscher, 3096 Brighton-6 St., Brooklyn 27, N. Y. Group 39--92. Reg. No. 8,213.

PAT. 2,392,086. Motor vehicle control. Patented Jan. 1, 1946.
Control mechanism is provided so that a single unidirectional movement of a driver's foot from right to left in a horizontal plane will release the accelerator pedal and instantly engage brake pedal to apply the brakes and throw

out clutch. The driver's foot is placed between the pedals. Vacuum operated cylinders under control of brake pedal may be utilized to apply brakes and release clutch. The declutching means may be omitted, if desired, and clutch operated in usual manner. (Owner) Samuel Curtis Fisher. Address correspondence to Martin T. Fisher, Colorado Bldg., 14th and G Sts. N.W., Washington, D. C. Group 38--31. Reg. No. 8,214.

PAT. 2,420,251. Hair drier with air recirculating means. Patented May 6, 1947.
Drier for use with a chair having a reclining back and supported thereby is designed so that a patron may relax or sleep in comfort during the drying operation. Air drawn into the cool air inlet of the drier continuously flows over patron's face. An elongated curved housing contains drier and is positioned vertically in back of the chair. A hinged top section of the drier is provided with a flexible sealing band for engaging a patron's forehead and temples. A cushioned neck rest is attached to top of chair. A cool air inlet passage and a hot air recirculation passage in parallel relation extend from top to bottom of drier and terminate below a combined fan and heater, so that the heated air is blown upwardly over scalp. A variable amount of recirculated hot air may be mixed with the cool air and the rest exhausted to atmosphere. The drier and neck rest may be adjustably mounted to accommodate heads of different size. (Owner) Frank La Voriyea. Address correspondence to Andrew F. Wintercorn, 540 Shoreham Bldg., Washington, D. C. Group 39--91. Reg. No. 8,215.

PAT. 2,418,243. Piston ring. Patented Apr. 1, 1947.
Split piston ring has a series of elongated pockets (opening inwardly) spaced around its inner surface with a bowed leaf spring mounted in each pocket for rocking motion to yieldingly urge the ring outwardly to maintain it in contact with the cylinder wall. A ball is welded to the back of each spring intermediate the ends thereof. In order to tension the springs and permit them to rock they are mounted in the pockets so that the ends of each spring contact the floor of a pocket while the back of the ball contacts the skirt of piston. (Owner) Paul M. Adamson. Address correspondence to Victor J. Evans & Co., Merlin Bldg., 1503 21st St. N.W., Washington 6, D. C. Groups 35--69; 38--31. Reg. No. 8,216.

PAT. 2,116,281. Bathtub steam eliminator. Patented May 3, 1938.
The purpose of this device is to fill a bathtub in preparation for a hot bath without creating hot, humid conditions in the bathroom. Device comprises a water distributing head or nozzle connected by a length of hose to the hot and cold water faucets. The head is designed to rest on the bottom of the tub and uniformly discharge water laterally in all directions along the bottom of the tub. In use the tub is initially filled with enough cold water to submerge the distributing head and then the hot water is turned on. At all times the hot water is discharged beneath the surface of the water already in the tub. (Owner) Mrs. Elinor J. Guild, 24 Cabot St., Winchester, Mass. Groups 33--61; 34--41; 40. Reg. No. 8,217.

PAT 2,225,391. Lamp guard and support. Patented Dec. 17, 1940.
This patent shows an extension cord unit comprising a handle and bulb guard (wire cage) in which the bulb or socket can be changed quickly without the use of tools. The guard, which includes a foldable supporting hook and light reflector shield, lifts off the handle and snaps on securely. By rotating the guard on the handle the shield may be turned to any desired position. To add to the utility of this unit, the same type of folding clamp as used with the flashlight of Patent No. 2,287,485 may be built into it. This extension cord unit should appeal to industry because of its rugged simplicity and time-saving characteristics. (Owner) L. B. Pierce, 516 West Jackson St., Medford, Oreg. Groups 34--81; 36--31. Reg. No. 8,218.

PAT. 2,287,485. Flashlight case and support. Patented June 23, 1942.
Flashlight case with built-in foldable mounting clamp renders the utility of the flashlight complete. The flashlight may be clamped to a flat or rounded surface so that it may be suspended from or supported on the clamp. Clamp may also be used as a stand to support the flashlight on a table or the like. When supported in any selected position, the flashlight may be moved to various adjusted positions and remain in any adjusted position. With clamp folded the flashlight is of attractive, streamlined appearance, being devoid of any objectionable projections. The construction is simple, sturdy and practical so that it should appeal to motorists, mechanics, and industry in general. (Owner) L. B. Pierce, 516 West Jackson St., Medford, Oreg. Groups 34--81; 39--81; 40. Reg. No. 8,219.

PAT. 2,420,123. Heat circulating device. Patented May 6, 1947.
This invention relates to a portable device to circulate and force warm air trapped near ceiling of a heated room into an adjoining room. A casing with a screened front opening and a rear opening in the bottom houses an electric fan which is mounted above a door opening. An elbow-shaped conduit, coupled to the rear opening of the casing, extends downwardly toward door opening for directing air into the next room. (Owner) Melbourne J. Cooper, M.D., 206 Primera Drive, San Antonio, Tex. Group 36--21. Reg. No. 8,220.

PAT. 2,399,808. Automatic aligning and locking tool-holders. Patented May 7, 1946.
Tool holder is adapted to be connected to the dead spindle of a lathe or similar machine. The holder is constructed so that when a tool held thereby is brought into engagement with a revolving work piece held by a live spindle it is automatically shifted and brought into alignment with the live spindle and work and locked in aligned position in the holder. A tool is easily inserted into or removed from the holder. The holder is compact and of simplified construction. It comprises only four separate members, which include a clutching ring and a coupling member. (Owner) Thomas R. Jones, c/o John Parker Smith, 855 1st National Bank Bldg., Chicago, Ill. Groups 35--41; 35--43. Reg. No. 8,221.

PAT. 2,419,977. Brake fluid control apparatus. Patented May 6, 1947.
With this device one person may bleed hydraulic brake systems or detect leaks. It may be permanently mounted on a vehicle and connected to master cylinder without interfering with operation of the brakes. A tank is provided with an apertured cover and a plunger surrounding a vertically reciprocating pipe near its lower end. A four-way coupling is mounted on top of the pipe. A handle, an air valve, and a filler plug are mounted in the respective openings of the coupling. The pipe and coupling are releasably held in their uppermost position while brake fluid is admitted into tank below plunger through the coupling and pipe. A spring normally urges pipe and plunger downwardly exerting pressure on the fluid. Air may be admitted to build up additional pressure above the fluid. A petcock in the line between tank and master cylinder controls flow of fluid into master cylinder. When closed the petcock vents the master cylinder. (Owner) John H. Wellbrock, 90-20 169th St., Jamaica, N. Y. Group 38--31. Reg. No. 8,222.

PAT. 2,396,251. Rear projection device. Patented Mar. 12, 1946. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
This invention relates to a rear projection device for use in connection with a slide projection machine for classroom instruction. Comprises a hood with a translucent screen at one end and a reflecting surface at opposite end. Light rays are reflected from reflecting surface through opening in hood to screen to obtain images on screen from a projection machine. The instructor may stand adjacent to the screen and indicate portions of image to class and have access to slide projection machine for changing slides. Models may be placed between the source of light and rear of screen to produce a silhouette. (Owner) Sherrell V. Colley, 1630 Indianapolis Blvd., Whiting, Ind. Group 39--12. Reg. No. 8,223.

PAT. 2,055,721. Match packet. Patented Sept. 29, 1936.
Paper matches are glued to a flexible strip, partially split into a number of pull tabs the same width as the match stem. The uncut portion is reversely bent and serves as a base which may be glued to the inside of the usual cigarette package wrapper. Upon pulling a projecting tab, a match may be individually torn from the strip without disturbing or loosening the other matches. Several arrangements and modifications shown. (Owner) Harry H. Gray, 4423 Sunrise Drive, Kansas City 1, Mo. Group 25--93. Reg. No. 8,224.

DES. 145,729. Design for a soap cake holder or similar article. Patented Oct. 15, 1946. Groups 39--81; 40. Reg. No. 8,225.

DES. 146,306. Soap cake holder. Patented Feb. 4, 1947. Groups 38--81; 40. Reg. No. 8,226.
(Owner) Harry H. Gray, 4423 Sunrise Drive, Kansas City 1, Mo.

PAT. 2,183,765. Spherical triangle measuring instrument. Patented Dec. 19, 1939.
This measuring instrument is adapted to mechanically set up and solve problems in spherical trigonometry. Any three parts of a spherical triangle may be physically reproduced and represented by setting corresponding parts of the instrument and the whole spherical triangle mechanically solved by relative positioning of other parts of the instrument incident to such setting. The parts may be adjusted to show the true relation between right ascension and declination, versus celestial longitude and latitude and to trace or solve cometary or planetary orbits, etc. All circles (annular plates connected to form the device) are complete so that measurements made are automatically verified 180° away and the readings conveniently determined from either side of the instrument. (Owner) John H. Coleman, P. O. Box 284, Asheville, N. C. Group 35--65. Reg. No. 8,227.

DES. 144,548. Design for a font of type. Patented Apr. 30, 1946.
(Owner) Otto Gerstl, c/o Dixie Cup Co., 401-431 N. Western Ave., Chicago 12, Ill. Groups 27--91; 35--55. Reg. No. 8,228.

PAT. 2,368,278. Remote indicating system. Patented Jan. 30, 1945. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
This pressure indicator includes a pressure sensitive diaphragm and a condenser, the electrostatic properties of which are varied in direct proportion to the pressure on the diaphragm. The diaphragm is electrically connected to an indicator which instantaneously registers the movement of the plates of the condenser and the movement of the diaphragm. Thus the meter indication is a function of the pressure on the diaphragm. The indicator may be used to show any change in condition such as pressure, temperature, liquid level, etc. The pressure indicator is usually placed in a location convenient for reading and the diaphragm is placed at the source of pressure. (Owner) Howard D. Warshaw, 934 Argyle Road, Drexel Hill, Pa. Group 36--13. Reg. No. 8,229.

PAT. 2,417,097. Variable inductance for telemetering systems. Patented Mar. 11, 1947. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
This transmitter, used with a remote indicating unit of the type described in Patent 2,419,612 (Reg. No. 8,231), is particularly adapted for mounting directly in an engine block to measure oil pressures. The transmitter comprises a pair of superimposed coils connected in series and separated by a washer made of magnetic material. The coils, when energized, produce opposing fields. A magnetic core is movable through the coils in response to changes in condition to increase the inductive reactance of one of the coils while simultaneously decreasing the reactance of the other. The core is biased to its zero position by resistors which determine the extent of core travel. The transmitter may also be applied equally as well for transmitting conditions other than pressure. (Owner) Howard D. Warshaw, 934 Argyle Road, Drexel Hill, Pa. Group 36--13. Reg. No. 8,230.

PAT. 2,419,612. Magnetic vane type ratiometer. Patented Apr. 29, 1947. (Granted under the act of March 3, 1883, as amended April 30, 1928; 370 O. G. 757.)
This ratiometer type indicating unit is particularly adapted for A. C. operation (heretofore not considered altogether practical so prior units were only D. C. operated). A pointer on the dial of the unit is controlled by two pairs of coils positioned at a fixed angle with respect to each other. A permanent magnet is rotatable within the coils and operable to align itself with the resultant of two directionally fixed magnetic fields. A smaller magnet, wound to neutralize any additional magnetic field created by it, is fixed at zero position on the scale and functions to return the pointer to zero when the unit is de-energized. The indicating rotor assembly is movable in response to the directionally fixed magnetic fields in accordance with the ratio of the magnitude of the alternating currents which produce the fields. (Owner) Howard D. Warshaw, 934 Argyle Road, Drexel Hill, Pa. Group 36--13. Reg. No. 8,231.

PAT. 2,170,957. Keyless lock device. Patented Aug. 29, 1939.
This keyless lock is a compact arrangement in which tumblers are arranged in side-by-side relation within a small casing. The tumblers are adapted to be adjusted to different predetermined colinear positions or "combinations" so that the lock may be opened by the movement of a slider. Provision is made so that the tumblers spring back or fall to a normal rest position to "break up" the combination after closing the device. The lock is adapted to be used on hand bags, desk drawers, cabinets, luggage, diaries, and other articles. Several modifications are included in the patent. (Owner) Leon H. Asdur, 72 Orange St., Brooklyn, N. Y. Groups 31--61--71; 33--59. Reg. No. 8,232.

PAT. 2,416,149. Attachment for coffee pots. Patented Feb. 18, 1947.
This attachment is coupled to the upper bowl of vacuum-type coffee makers to form an overflow chamber during the brewing of the coffee. When the bowl is inverted it serves as a temporary base as well as a receptacle for used coffee grounds. The attachment is a cup-shaped

casing having a cap at one end and is held to the opening of the bowl by spring plates. (Owners) Hugh P. Botts and Laurence G. Botts. Address correspondence to Hugh P. Botts, 203 West 78th St., New York 24, N. Y. Groups 32--29; 39--81; 40. Reg. No. 8,233.

PAT. 2,417,465. Detachable handle for paper bags. Patented Mar. 18, 1947.
This handle is quickly attached to shopping bags and other conventional paper bags. The handle is made of twisted kraft paper cord having an enlarged portion gripped by a split sleeve. It is attached by holding a loop of bag edge over the enlarged portion and frictionally sliding the sleeve over both. (Owners) Hugh P. Botts and Laurence G. Botts. Address correspondence to Hugh P. Botts, 203 West 78th St., New York 24, N. Y. Groups 26--51--99; 40. Reg. No. 8,234.

PAT. 2,416,150. Sliding jaw supporting clasp. Patented Feb. 18, 1947.
A metal or plastic clasp for garters or the like. Consists of a combination of an elongated body and a narrow split sleeve which slidably engages the body and forms a wedge. Stockings are firmly held between coacting beveled surfaces of the body and the sleeve. The sleeve is slipped upwardly to release the stocking. (Owners) Hugh P. Botts and Laurence G. Botts. Address correspondence to Hugh P. Botts, 203 West 78th St., New York 24, N. Y. Groups 33--73; 39--81. Reg. No. 8,235.

Official Gazette, September 23, 1947

The following thirty-two patents relating principally to various phases of absorption refrigeration have been made available for sale by the Perfection Stove Co., 7609 Platt Ave., Cleveland, Ohio. The patents cover kerosene and gas burning intermittent absorption refrigerators, continuously heated automatic gas burning refrigerators, milk coolers, and features of general refrigeration application. Groups 33--71; 35--84. Reg. Nos. 8,236-8,267.

PAT. 1,763,673. Refrigerator. Patented June 17, 1930.

PAT. 1,789,066. Refrigerator. Patented Jan. 13, 1931.

PAT. 1,789,067. Refrigeration apparatus. Patented Jan. 13, 1931.

PAT. 1,816,955. Refrigerator construction. Patented Aug. 4, 1931.

PAT. 1,816,956. Condenser. Patented Aug. 4, 1931.

PAT. 1,844,932. Combustion refrigeration apparatus. Patented Feb. 16, 1932.

PAT. 1,858,280. Safety blow-off device. Patented May 17, 1932.

PAT. 1,871,879. Refrigeration apparatus. Patented Aug. 16, 1932.

PAT. 1,899,852. Temperature control means for refrigeration compartments. Patented Feb. 28, 1933.

PAT. 1,914,687. Liquid return for intermittent absorption refrigerators. Patented June 20, 1933.

PAT. 1,917,751. Gas burning appliance for absorption refrigerators. Patented July 11, 1933.

PAT. 1,929,282. Automatic control for absorption refrigerators. Patented Oct. 3, 1933.

PAT. 1,940,621. Milk cooler. Patented Dec. 19, 1933.

PAT. 1,946,029. Refrigeration apparatus. Patented Feb. 6, 1934.

PAT. 1,948,447. Fuel supply indicator for refrigerators. Patented Feb. 20, 1934.

PAT. 1,961,815. Condenser. Patented June 5, 1934.

PAT. 1,985,816. Cooling unit for refrigerating machines. Patented Dec. 25, 1934.

PAT. 1,985,950. Enameled condenser. Patented Jan. 1, 1935.

PAT. 1,991,271. Automatic control for intermittent absorption refrigeration apparatus. Patented Feb. 12, 1935.

PAT. 2,014,465. Combustion outfit for refrigeration apparatus. Patented Sept. 17, 1935.

PAT. 2,027,631. Refrigeration apparatus. Patented Jan. 14, 1936.

PAT. 2,032,853. Flow control. Patented Mar. 3, 1936.

PAT. 2,045,043. Refrigerating system. Patented June 23, 1936.

PAT. 2,045,053. Refrigerating system and method. Patented June 23, 1936.

PAT. 2,045,054. Intermittent absorption refrigerating system. Patented June 23, 1936.

PAT. 2,062,921. Refrigeration apparatus. Patented Dec. 1, 1936.

PAT. 2,086,118. Adjustable shelf for refrigerators or the like. Patented July 6, 1937.

PAT. 2,092,205. Liquid fuel burner. Patented Sept. 7, 1937.

PAT. 2,102,056. Refrigeration control means and method. Patented Dec. 14, 1937.

PAT. 2,162,244. Refrigerator tray loosening means. Patented June 13, 1939.

PAT. 2,212,364. Liquid fuel fired absorption refrigerator. Patented Aug. 20, 1940.

PAT. 2,341,188. Absorption refrigeration apparatus. Patented Feb. 8, 1944.

Patent 1,789,066 relates to one type of cabinet construction. Patent 1,858,280 presents a safety device without valves or joints and which releases refrigerant from any refrigerating system in case of excessive pressure. Patent 1,899,852 describes temperature control in a refrigerator cabinet accomplished by moving the defrosting tray up or down. Patent 2,086,118 refers to an adjustable refrigerator shelf. Patent 2,162,244 shows means for loosening ice trays. An important feature of the kerosene burning and gas burning intermittent refrigerators is covered by a series of patents in which liquid residue is transferred from the evaporator to the absorption generator. Patent 1,914,687 illustrates various means for returning residue liquid from the evaporator to the generator regardless of the relative elevation of the two vessels. Patent 2,027,631 refers to a "heat bar" on the liquid return tube. Patent 2,045,054 relates to a heat pump for the transfer of the liquid residue from the evaporator to the absorption generator. Patent 2,102,056 describes a thermostatic control applicable to intermittent absorption refrigeration. In addition to the preceding patents of more general application, there is included a series of patents relating specifically to kerosene burning and gas burning nonautomatic refrigerators. Patents 1,763,673, 1,816,955, and 1,844,932 depict the general

construction and suspension of the absorption generator. Evaporator construction and operation are covered by Patent 1,789,067 relating to stabilization of the cold chamber temperature. Patent 1,871,879 is an improvement on Patent 1,789,879. Patent 1,985,816 illustrates the use of a brine tank for stabilising the temperature of the cold chamber. Patents 1,816,956, 1,961,815, and 1,985,950 describe water cooled condensers, condenser tanks, condenser coils and improvements. Various features of oil burner design for this class of refrigerators are covered by Patents 2,014,465, 2,032,853, 2,092,205, and 2,212,364 which explain methods and means for the design, construction and suspension of oil burners, and cover, in addition, safety devices, particularly water traps in the liquid fuel supply line. Patent 1,914,751 refers to a gas burner attachment for converting oil-fired refrigeration apparatus to gas-fired and also a thermostatic gas burner control. Patent 1,948,447 describes a fuel supply indicator used in connection with oil burners. Patent 1,940,621 relates to intermittent absorption milk cooler units (already manufactured and sold in quantity). Patent 2,341,188 covers an automatic gas refrigerator with a continuously burning flame. (Development work was near completion when the start of the war necessitated dropping this work.) Several of the listed patents include features involved in the operation of the automatic intermittent gas burning refrigerator and cover such items as thermostatic controls, safety controls, refrigerator design, and other features applicable to refrigeration apparatus in general.

The following patents have been made available for non-exclusive license, on a royalty basis, by The Dill Manufacturing Company, 700 East 82nd St., Cleveland, Ohio.

RE. 18,513. Pneumatic inner tube and valve stem. Reissued July 5, 1932. (Original No. 1,804,294, dated May 5, 1931.)
A tapered valve stem of rubber or similar material, integrally formed with pneumatic inner tube, carries a relatively short extension of smaller cross section so that a shoulder is formed at the base of the extension. The end of the extension is engaged by a cap which seats on the shoulder. This structure enables the stem to bend or flatten down against the inner tube without injury to the stem or its core in the event of deflation of the tube. Group 30--31. Reg. No. S,268.

PAT. 1,957,866. Stub type valve stem. Patented May 8, 1934.
This stub type valve stem is somewhat similar in structure to that described in Re. 18,513. The valve features a base member made of a composition of rubber intermixed with cotton fibers which acts as a central reinforcement. The structure facilitates the withdrawal of the stem through an elongated hole in a wheel rim of the drop center type so that in the event of punctures, etc., additional injury to the inner tube as well as the valve stem itself is avoided. Group 30--31. Reg. No. S,269.

PAT. 2,018,584. Valve stem. Patented Oct. 22, 1935.
A flexible valve stem for pneumatic tires. The stem has a tapered body portion which allows easy withdrawal through opening provided in wheel rim, should the tire become deflated. Group 30--31. Reg. No. S,270.

PAT. 2,106,638. Valve stem. Patented Jan. 25, 1938.
This valve stem of rubber-like material, for an inner tube, has a protective metal sleeve. The sleeve extends part way on the stem to prevent the stem from expanding in the region of the valve seat at such times as an inner valve element may be shifted. A closure cap threaded to the sleeve completes the assembly. Group 30--31. Reg. No. S,271.

PAT. 2,106,671. Valve stem and check valve therefor. Patented Jan. 25, 1938.
The central bore of this rubber valve stem for an inner tube has an integrally formed, downwardly faced shoulder adapted to serve as a seat for an inner metal check valve mounted at the end of a stem and held in place upon the seat by a compression spring. The flexibility of the stem permits it being drawn through a rim opening without being torn from the tube. Group 30--31. Reg. No. S,272.

PAT. 2,166,402. Coupling. Patented July 18, 1939.
A coupling for connecting an air inflating hose to rubber valve stems such as already described. The coupling comprises a barrel having movable gripping jaws. The jaws are brought into either locked or open position by the action of a flat spring mounted on the barrel and seated between the gripping jaws and a spring-urged plunger (which depresses the valve mechanism). In normal position, the flat spring is bowed and the jaws in operative position. When depressed, however, the jaws are moved to open position so that the coupling may be applied to the valve stem, the jaws being locked upon release of the flat spring. Group 39--99. Reg. No. S,273.

PAT. 2,188,713. Valve core, container, and stem. Patented Jan. 30, 1940.
A valve core for use in molded rubber valve stems of pneumatic tires. A cap on the tip of the stem cooperates with projections on the barrel of the core so that the core may be inserted or removed from the valve stem by rotation. Group 30--31. Reg. No. S,274.

PAT. 2,194,895. Valve stem. Patented Mar. 26, 1940.
This invention relates particularly to a rubber valve stem for inner tubes, inflatable bodies such as football bladders and the like, and to improved air sealing means therefor. It has a conical valve body, and a sheet metal insert vulcanized in the end of a rubber valve stem. The insert acts as a reinforcement for the shoulder which forms a seat in the bore of the stem. Group 33--73. Reg. No. S,275.

PAT. 2,199,054. Valve core and stem. Patented Apr. 30, 1940.
A valve core comprising a tubular member externally threaded at one end to receive a clamping nut and outwardly flanged at the other end for engagement in the air passage of a rubber valve stem. The housing of the mechanism is inserted in the end of a rubber valve stem and held to the stem by means of a nut threaded on the outside of the valve housing. Construction eliminates use of a closure cap. Group 33--73. Reg. No. S,276.

PAT. 2,200,785. Valve stem. Patented May 14, 1940.
A rubber valve stem, for an inner tube, having a central bore provided with downwardly faced shoulders to form a valve seat in combination with a check valve inserted to engage the seat. The valve has a stem threaded at the end adapted to be engaged by a threaded cap which pulls the valve to its seat. Group 30--31. Reg. No. S,277.

PAT. 2,219,190. Valve. Patented Oct. 22, 1940.
This valve is adapted to be used in connection with such inflatable articles as air bags, or bladders, the valve structure being so mounted as to extend within the confines of the article to be inflated. The valve seat is molded as a portion of the body of the valve. Group 30--31. Reg. No. S,278.

PAT. 2,222,755. Valve stem molding means. Patented Nov. 26, 1940.
Mold for rubber inner tube valve stems has a tapered cavity, the small end of which has a tubular fitting. The fitting internally engages and centers a tubular insert in spaced relation to the cavity walls. The fitting has a snug peripheral fit in the insert to prevent the passage of rubber between the two during the molding operation. Groups 30--31; 39--98. Reg. No. 8,279.

PAT. 2,229,379. Valve stem. Patented Jan. 21, 1941.
This flexible rubber valve stem has a short fitting which carries valve provisions as well as a threaded closure cap. The fitting is vulcanized into the end of the stem and forms a part of the bore. The stem also has a reinforced flat base adapted to be cemented or vulcanized to an inner tube so that the usual valve patch may be omitted. Group 30--31. Reg. No. 8,280.

PAT. 2,233,173. Valve. Patented Feb. 25, 1941.
This rubber valve stem has a base composed of relatively pliable rubber and a body of stiffer rubber. The base is thus bonded to the inner tube of a tire with greater yielding properties so that the body of harder rubber may be bent at different angular positions. For use with different kinds of tire and rim assemblies, particularly for truck and bus use. Group 30--31. Reg. No. 8,281.

PAT. 2,240,096. Valve stem of the capless type. Patented Apr. 29, 1941.
Valve stem has insert which is formed to receive a threaded valve core. The valve core head is slotted so that it may be inserted into the stem with a screw driver. The air passage is enlarged inwardly so that when an air hose is applied to the stem, a slidable valve head is automatically depressed by the flow of air and returns to closed position upon removal of the hose. Group 30--31. Reg. No. 8,282.

PAT. 2,243,930. Valve stem and check valve therefor. Patented June 3, 1941.
A composition rubber valve stem for an inner tube having an insert (a tubular metal liner) molded at the end of its passage to provide a seat for a resiliently held check valve. Group 30--31. Reg. No. 8,283.

PAT. 2,255,932. Tire valve. Patented Sept. 16, 1941.
Molded rubber valve stem for an inner tube has a bore of relatively small diameter, the body of the stem being provided also with a number of elongated cavities which extend in parallel relation to the bore. Added strength is given to the stem by the small opening; flexibility by the cavities. Group 30--31. Reg. No. 8,284.

Official Gazette, September 30, 1947

The following patents have been made available for non-exclusive license, on a royalty basis, by The Dill Manufacturing Company, 700 East 82nd St., Cleveland, Ohio. Another group of patents offered by this company appeared in the Official Gazette, September 23, 1947.

PAT. 2,256,773. Cutting mechanism. Patented Sept. 23, 1941.
A machine particularly constructed for severing sheets of molded rubber valve stems into individual stems as they come from the molding press preliminary to the trimming operation. The machine has reciprocal rotary knives which move angularly with respect to the sheet, cutting on both forward and return motion. This cutting mechanism may be embodied in apparatus for severing other material along angularly directed lines. Group 33--12. Reg. No. 8,285.

PAT. 2,260,646. Valve stem. Patented Oct. 28, 1941.
A valve stem formed of metal parts covered with rubber. The stem has a bore formed to provide a valve seat for a yieldable valve body with which it cooperates. The valve body has a head which normally closes the outer end of the stem so that a cap is unnecessary. During inflation the valve head is moved downwardly by the trip pin of an inflating chuck or by an air hose. The valve stem is particularly intended for truck tires, and is especially advantageous when applied to theinner one of the tires of a double-tired wheel. Group 30--31. Reg. No. 8,286.

PAT. 2,269,367. Rubber valve stem for pneumatic tires. Patented Jan. 6, 1942.
A rubber valve stem, the end of which is provided with flexible ridges so that it may more readily receive the chuck of an air inflating device. Group 30--31. Reg. No. 8,287.

PAT. 2,271,370. Tire valve deflator. Patented Jan. 27, 1942.
Clamp shaped from a resilient metal strip has jaws connected by a spring arch and a pair of finger portions which may be manually depressed to expand the jaws. The jaws are serrated so that the clamp will be slip-proof when applied to the valve stem of an automobile tire inner tube. The arch is fitted with a block and pin which act to depress the valve head when the clamp is pushed down on a valve stem so that the tire may be deflated. Groups 33--73; 35--31. Reg. No. 8,288.

PAT. 2,293,132. Valve core, container, and stem. Patented Aug. 18, 1942.
This valve stem assembly includes a core in which a portion of the barrel and a portion of the cap at the end of the valve pin are formed with cooperating parts so that upon depressing the head, the valve core barrel may be rotated to effect insertion or removal of the core from the valve stem. Group 30--31. Reg. No. 8,289.

PAT. 2,299,068. Tire valve. Patented Oct. 20, 1942.
This rubber valve structure is particularly intended for use on buses and trucks. Valve stems, being located adjacent to the brake drum become highly heated. The capacity of rubber valve stems when used in heavy service is greatly affected so that they fail to maintain an air-tight seal. By inserting a metal reinforcement the full length of the stem a metal to metal contact is established and the claimed advantages of short stem structure utilized. Groups 30--31; 33--73. Reg. No. 8,290.

PAT. 2,361,890. Valve stem. Patented Oct. 31, 1944.
This molded rubber valve stem for an inner tube is somewhat similar to those already described in that the bore

of the stem includes a shoulder which forms a seat for a valve. However, the valve stem has an expanded portion which forms a closure and completely covers a tubular insert which acts as a lining for the tip end of the stem passage. The structure thus eliminates need for a cap. Group 30--31. Reg. No. 8,291.

PAT. 2,314,823. Molding apparatus. Patented Mar. 23, 1943.
An apparatus for molding rubber valve stems. The patent specifically relates to mechanism which strips the molded stem and ejects it from the recess in which it is molded by hydraulic means. It may operate simultaneously on a plurality of molded articles. Groups 30--31; 39--98. Reg. No. 8,292.

PAT. 2,311,748. Tire valve. Patented Feb. 23, 1943.
A tire valve for heavy duty pneumatic tires so constructed that the valve mechanism is removable from the stem proper and the separable unit is threadedly associated with the valve stem proper in such a way that leakage around the unit is substantially prevented. Group 30--31. Reg. No. 8,293.

PAT. 2,319,501. Testing equipment. Patented May 18, 1943.
This patent relates to apparatus for testing pneumatic tire valve stems for leakage. The stems to be tested are mounted on a ring provided with pneumatic means. The ring is moved into an annular tank containing water and the stems subjected to compressed air while immersed. Group 35--69. Reg. No. 8,294.

Official Gazette, October 7, 1947

PAT. 2,149,719. Electric outlet box. Patented Mar. 7, 1939.
Instead of providing the usual threaded lug on a conventional outlet box for the reception of a screw to hold the strap of a plug assembly to the box, this patent covers a lug having a nonthreaded opening and a sleeve welded to the lug. Within the sleeve any suitable type of detents may be utilized provided they permit endwise thrusting of the screw past them when it is being inserted, while engaging the thread of the screw to resist reverse movement. The holding screw is simply thrust into the lug and sleeve and final tightening of the screw is accomplished by a few turns with a screwdriver. (Owner) Harry L. Arnest, 809 22d St., S., Arlington, Va. Group 36--11. Reg. No. 8,295.

PAT. 2,417,040. Razor blade conditioner. Patented Mar. 11, 1947.
A glass or porcelain mug has a partition dividing it into a blade conditioning chamber and a well for the reception of a lubricant. A small opening near the top of the partition enables the lubricant to escape, a drop at a time, when the mug is tipped. A blade may thus be lubricated prior to being moved back and forth inside the mug for sharpening. (Owner) Harry L. Arnest, 809 22d St.,S., Arlington, Va. Group 32--63. Reg. No. 8,296.

PAT. 2,403,283. Floating breaker switch for ignition systems. Patented July 2, 1946.
An ignition system breaker switch structure having a floating switch arrangement requiring duality of contact making and breaking. Increases the speed of breaking the circuit and the speed of reestablishing the circuit, thus increasing the dwell angle so at high engine speeds the ignition coil builds up faster to a higher voltage and is perfectly synchronized at all times. Includes a rotatable actuating member between a pair of levers each having a contact at one end and a fulcrum bearing portion at the opposite end, forced together by spring arms. (Owner) Howard L. Hull, 714 Park Ave., Anderson, Ind. Group 36--41. Reg. No. 8,297.

PAT. 2,251,767. Washing strip brush. Patented Aug. 5, 1941.
Brush with a cloth back is useful for washing one's own back. It comprises a long strip of cloth-like material (preferably sisal) with a section intermediate its ends provided with bristles. The strip is of sufficient length to encircle the body so that U-shaped hooks in the ends may be grasped by the hands in front of the chest. The bristles are incorporated into the brush during weaving of the strip, which is done in a novel manner. The bristles may also project through other short sections of superimposed spaced sheets similarly woven thereabout to hold the bristles in proper angular position. To increase the length of the bristles as they wear down the superimposed sheets may be easily removed and discarded. (Owner) Alfred Steiner, 884 Riverside Drive, 4B, New York 32, N. Y. Groups 39--22; 40. Reg. No. 8,298.

PAT. 2,420,770. Shoe heel insert and heel. Patented May 20, 1947.
Rubber insert adapted to be attached to a leather heel at the point which contacts the ground first, may be easily replaced when worn. The insert (having embedded eyelets) is formed with a forwardly extending ledge. A ledge is formed on the rear end of the leather heel and the insert nailed thereto before the last leather layer is nailed on to complete the heel. This layer overlies the ledge only of the insert with its rear edge abutting the body portion of the insert. When the insert is attached its body portion forms part of the last layer of the heel and is flush therewith. (Owner) Ned Chiodo, 241 East Jackson Ave., Des Moines, Iowa. Groups 30--22; 40. Reg. No. 8,299.

PAT. 2,195,900. Terminal for storage battery cables. Patented Apr. 2, 1940.
A battery cable terminal stamped in a single operation rrom a strip of resilient conductive metal. One end has a notch formed in each opposite edge, which notches interlock when the end is looped around the terminal post. The loop may be adjusted with pliers to tightly fit the post. The other end is T-shaped. The arms of the T are bent to form an integral split sleeve for gripping cable. (Owners) George A. Reed and Harley Orahood. Address correspondence to George A. Reed, Villegreen, Colo. Group 33--73. Reg. No. 8,300.

PAT. 2,350,611. Charging apparatus. Patented June 6, 1944.
Latching and releasing mechanism (which may be readily incorporated into existing types of metallurgical furnace charging buckets) holds the hinged segments of the bucket

bottom in latched position and releases them to permit charge to drop into furnace. The mechanism is released by a crane operator. A heavy disk is welded to the bottom of one of the segments so that it will underlie the free ends of all other segments. A latching bolt mounted on a segment diametrically opposite the disk-carrying segment slides beneath the disk. A lever is provided for connection to a minor hook of the crane. The patent also shows mechanism for automatically moving the segments into latched position by simply lowering the bucket onto the mechanism. The disk-carrying segment moves into closed position only after all other segments are closed. The disk engages and forces the latch to move so that it will snap back beneath the disk. (Owner) Almer O. Hicks. Address correspondence to A. C. Nolte, c/o Moses, Nolte, Crews and Berry, 11 West 42d St., New York 18, N. Y. Groups 33--11--12; 34--11 to 29 inclusive. Reg. No. 8,301.

PAT. 2,336,363. Lunch kit or similar device. Patented Dec. 7, 1943.
This means for latching a conventional type of lunch kit cover is so designed that a spoon or other eating utensil must always be included in the kit. One of the latching lugs usually carried by the cover is mounted on the handle of the spoon near its outer end. The other lug, carried on the lower end of a leaf spring, is mounted on the cover. When the spoon is secured to the cover both lugs protrude outwardly. A spring clip on the cover securely holds the spoon in place. (Owner) Mrs. H. G. Mann, 2131 Sixth St., Bremerton, Wash. Group 31--61. Reg. No. 8,302.

PAT. 2,399,714. Automatic work-adjusting C clamp. Patented May 7, 1946.
A C-clamp having a pair of circular revolving jaws may be used when brazing, soldering, or welding two cylindrical bodies (such as tubing). When clamped between the jaws, bodies are automatically adjusted and properly centered relative to each other, regardless of whether they are parallel to each other or in crossed relation. While clamped between the jaws the bodies may be angularly adjusted relative to each other without disturbing their centralized relation. The work-engaging face of each jaw comprises at least three ridge crests converging substantially from its periphery to its central portion. The jaws will not mar the surface of the work. (Owner) A. A. Wasilewski, 320 North Broad St., West Hazelton, Pa. Group 35--69. Reg. No. 8,303.

PAT. 2,278,332. Breast pocket and foundation garment. Patented Mar. 31, 1942. Group 23--42. Reg. No. 8,304.

PAT. 2,415,371. Bandeau. Patented Feb. 4, 1947. Group 23--42. Reg. No. 8,305.

These two patents relate to a self-adjusting brassière with removable filler members to produce a full and symmetrical effect. The inventions comprise an outer permanent breast formation and an inner adjustable support with slide straps. Each side may be adjusted a different degree to give the same outward appearance. An intermediate retaining member is provided between outer and inner support behind which a removable filler cone is inserted. (Owner) Carl Henry Rasch, Tracey Gardens, Englewood, N. J.

PAT. 2,285,161. Ventilating device. Patented June 2, 1942.
This device, adapted to be mounted in a wall opening, is especially useful for ventilating kitchens. It consists of an outer casing (having openings in its removable front and rear walls) with an inner cylindrical casing vertically mounted therein for rotation about a vertical axis. This inner casing has a transverse passageway and a motor driven fan mounted therein. By manipulation of a lever the inner casing may be rotated 180° to draw air in or out of the room. When not in use this ventilator is arranged to either partially or completely close the wall opening. (Owner) I. J. Jens, 2928 North Delaware St., Indianapolis, Ind. Groups 35--64--84; 36--21. Reg. No. 8,306.

PAT. 2,165,385. Sanitary bed. Patented July 11, 1939.
A sanitary mattress and support therefor for bedridden persons, infants, etc., with complete toilet accommodations. Three reversible boxes apertured at top and bottom are mounted side by side to support an apertured mattress. A removable pan is mounted on floor of middle box below the largest aperture. The side walls of all the boxes have slots for receiving a pair of corrugated boards. These boards are mounted in the outer boxes with their inner ends extending into the middle box for carrying liquid into the pan. (Owner) Catherine B. Kane, 149 East Elm St., Greenwich, Conn. Group 23--15. Reg. No. 8,307.

PAT. 2,018,376. Tool handle. Patented Oct. 22, 1935.
This patent covers the fastening of a file or similar tool in a handle. The tang of the tool is tapered and may be formed with screw threads which cut into the material of the handle; or it may have a series of outstanding barbs inclined away from the end. When the tang is driven into the handle, the barbs bite into the material and resist removal of the tool from the handle. (Owner) Joseph McMenamin, 132 Erial Ave., Clementon, N. J. Groups 33--52; 40. Reg. No. 8,308.

PAT. 2,313,761. Coffee percolator. Patented Mar. 16, 1943.
This coffee grounds ejector has an annular perforated flange substantially covering the bottom of the percolator basket in spaced relation therefrom. Integrally secured to the inner edge of this annular flange is a sleeve which surrounds the liquid delivery tube of the percolator. An enlargement at the upper end of this sleeve provides a handle which may be grasped manually for imparting an upward movement to the ejector in removing it from the basket. Upward movement of the ejector carries with it the coffee grounds in the receptacle after the coffee has been made. (Owner) Joseph McMenamin, 132 Erial Ave., Clementon, N. J. Groups 34--41--99; 36--21; 40. Reg. No. 8,309.

PAT. 2,405,751. Apparatus for brewing coffee. Patented Aug. 13, 1946.
Coffee maker is provided with a coffee grounds receptacle (basket) and a coffee grounds supporting and ejecting device which are designed to facilitate quick and easy removal of the grounds. The basket with a grounds ejector lowered therein may be used with coffee makers of the percolator or drip type, while the ejector alone is used with well-known vacuum glass types. The ejector supports the coffee grounds during the brewing operation, and when removed carries the grounds with it. The ejector comprises a central tubular upright portion (which is used as a handle) with a relatively wide perforated flange on the bottom. A filter cloth is formed with an outer gasket roll portion which seats in an annular groove in the periphery of the flange. When the ejector is removed the filter will perform a wiping action on the inside of the coffee maker or basket. (Owner) Joseph McMenamin, 132 Erial Ave., Clementon, N. J. Groups 34--41--99; 36--21; 40. Reg. No. 8,310.

PAT. 2,420,462. Lee action rear wheel suspension. Patented May 13, 1947.
A suspension structure for the rear wheels of an automobile. Includes a frame with a pair of vertically dependent hangers attached thereto. Upper and lower arms are pivotally mounted on the hangers and pivotally connected to upper and lower ears attached to a brake plate. Coil springs are mounted between the upper arms and the frame to permit the frame and arms to have vertical movement relative to each other, but normally hold the frame and arms in horizontal position. (Owner) James J. Carr, 2611 Wayland Drive, Raleigh, N. C. Group 35--31. Reg. No. 8,311.

PAT. 2,329,108. Tautening device for ironing-board covers. Patented Sept. 7, 1943.
A spring assembly for maintaining the working surface of an ironing-board cover in smooth and unwrinkled condition. The assembly is made up of a helically wound spring having an integrally formed loop at each end to which is connected a wire coupler. The couplers have at the outer ends double-claw hooks, the ends of which are sharply pointed so as to readily pierce the skirt portions of the ironing-board cover. Several of the devices, distributed on the under side, are required for each ironing board. (Owner) Edna C. Walter. Address correspondence to E. E. Wright, 544 East San Francisco St., Santa Fe, N. Mex. Group 33--49. Reg. No. 8,312.

PAT. 2,311,506. Valve structure. Patented Feb. 16, 1943.
A valve washer of the type commonly known as a "floating type washer" may be attached to the valve stem of a faucet or the like without the use of screws. The washer carries a centering pin and spring clip member. When attached to the valve stem the pin projects into an axial bore in the stem, and opposed fingers of the clip snap into a circumferential groove in the stem. The washer upon being brought into contact with the valve seat remains stationary, while the stem is further rotated to effect the closing of the valve, thus greatly prolonging the life of the washer. (Owner) Alton L. Arey. Address correspondence to Adrian Medert, 555 Terminal Tower, Cleveland 13, Ohio. Group 33--61--91. Reg. No. 8,313.

PAT. 2,344,064. Bench clamp. Patented Mar. 14, 1944.
This carpenter's bench clamp firmly holds boards of different thickness within a given range. The clamp comprises a triangular flat metal base plate with a stationary jaw and a wedge-shaped slidable jaw. A work piece is placed edgewise on the base with its end abutting a shoulder of the slidable jaw. As the work is pushed forwardly the slidable jaw moves forwardly and laterally toward the stationary jaw to firmly clamp the work between the jaws. The work is easily released by tapping its end lightly. Countersunk openings are provided in the base for securing clamp to a support. (Owner) Clarence H. Schueler, Columbia, Ill. Group 35--69. Reg. No. 8,314.

PAT. 2,155,783. Portable filling device. Patented Apr. 25, 1939.
Dispenser may be used for simultaneously filling a plurality of containers, such as salt and pepper shakers. The dispenser, preferably divided into two compartments, has banks of discharge spouts at the bottom of each compartment. The valves for the spouts are so arranged that they may be individually or simultaneously operated. The dispenser is adjustable for filling containers of different heights. (Owner) Mrs. M. L. Butcher, 2639 41st St., S.W., Seattle, Wash. Groups 33--73; 34--41--99; 40. Reg. No. 8,315.

PAT. 2,344,800. Cabinet. Patented Mar. 21, 1944.
Portable storage cabinet is provided with an arrangement of shelves, drawers, and compartments, which are all readily accessible when cabinet is opened. The top of the cabinet is hinged to the back to provide a door, while the front wall is hinged to the bottom to provide a second door. A third door is provided by hinging a section of the back wall to the bottom. When the front door is opened it withdraws a plurality of drawers to open position. These drawers are slidably positioned at an intermediate point of the cabinet between two shelves. In the upper compartment, preferably on an end wall, is a light socket and bulb which can be connected by a cord to any convenient outlet. When the cabinet is opened and the light is on, through an arrangement of glass shelves and mirrors, all drawers, shelves and compartments are flooded with light. (Owner) Mrs. M. L. Butcher, 2639 41st St., S. W., Seattle, Wash. Groups 33--73; 34--41--99; 40. Reg. No. 8,316.

Official Gazette, October 14, 1947

PAT. 2,393,387. Milk cooler. Patented Jan. 22, 1946.
Milk is cooled and aerated as it gravitates down an inclined cooling surface arranged to retard the flow, thus allowing ample time for thorough and uniform cooling. The cooling surface comprises a series of spaced transverse tubular cooling coils which are united by bridging walls between the coils. A separate series of transverse cooling coils is provided in the lower section of the cooling surface by means of passages in the bridging walls. Brine is circulated through the tubular cooling coils while a refrigerant is circulated through the other set. The cooling surface is covered by a suitable lid which may rest on the side walls. (Owner) William T. Lee. Address correspondence to Mrs. A Fraser, 241 St. John's Road, Toronto 9, Ontario, Canada. Groups 33--73; 35--22--84. Reg. No. 8,317.

PAT. 2,369,305. Fruit juice extractor. Patented Feb. 13, 1945.
Fruit is automatically fed, one at a time, into a motorized apparatus which extracts the juice, discharges the compressed fruit, and delivers measured quantities of juice into a series of individual receptacles. Fruit from a chute falls into the cavity of a pivotally mounted lower compressor which rests on a stationary funnel. An upper compressor carrying a cutter moves vertically toward and away from the lower compressor. After extraction of the juice the upper compressor moves away and the lower compressor pivots until it strikes a bumper which dislodges and drops the fruit into a chute. Extracted juice flows into a reservoir where it is constantly agitated. Measured quantities from the reservoir are periodically discharged by a measuring valve into individual receptacles mounted on an intermittently moving turntable. (Owner) George J. Rosenfeld, c/o Rodney Food Shop, 680 Mythe Ave., Brooklyn, N. Y. Groups 20--33; 35--51. Reg. No. 8,318.

PAT. 2,284,993. Grave protector. Patented June 2, 1942.
This grave protector comprises an elongated arched cover having rigid end walls. Narrow flanges at the base are provided with openings so that the protector may be temporarily anchored over an open grave by driving pegs through the openings. The protector may be made wholly of lightweight metal, or as shown in a modification, with a canvas cover, to make the protector foldable when not in use. (Owner) Elbie C. Simmons, Route 2, Box 166-B, Albemarle, N. C. Groups 23--95; 25--71. Reg. No. 8,319.

PAT. 2,413,369. Game. Patented Dec. 31, 1946.
This patent relates to game pieces which substitute for a deck of ordinary playing cards. Each piece consists of a pair of identical elongated flat splints pivotally connected near their center so that one overlies the other. A card value is printed on the inner face of one splint and concealed by the overlying splint. The pieces are shuffled by shaking them in an open container and then dealt. The value of the pieces is revealed only when opened in scissors-like-fashion by the player holding the hand. The pieces may be inexpensively manufactured of wood, paperboard, plastic or like material. (Owner) Peter O'Brien, 11 Liberty St., Salem, Mass. Groups 25--99; 26--99; 39--41. Reg. No. 8,320.

PAT. 2,417,703. Sealing screw closure. Patented Mar. 18, 1947.
A screw cap or closure for steel drums or cans. The cap has an inverted saucer-shaped spring plate which is adapted to be forced upwardly by a gasket when the closure is screwed tightly into the drum opening, the movement of the plate being stopped by a cap against which the upward face of the spring plate abuts. (Owner) Thomas H. Risk, 1600 West Eight Mile Road, Ferndale 20, Detroit, Mich. Groups 33--96; 34--95. Reg. No. 8,321.

PAT. 2,416,881. Pressure regulating valve. Patented Mar. 4, 1947.
Hydraulic valve, useful for aircraft, maintains a preset uniform pressure at an outlet regardless of variations at the inlet. A valve cage has two ball check valves slidably mounted in the lower end of a housing. A spring is disposed between the cage and pressure piston in the upper end of the housing. In operation fluid entering valve and cage unseats the lower check valve so that fluid is discharged through the pressure outlet of the valve, a portion being diverted to a pressure chamber above the piston. As pressure in the outlet increases cage and piston move toward each other, compressing spring until a predetermined pressure is exceeded. Thereupon, a stem carried by the piston unseats the upper check valve so that excess fluid flows into the valve housing above the cage and out through a return port to a reservoir or pump. (Owner) Merle L. Osborn, 1775 Linden Ave., Long Beach, Calif. Groups 33--61; 37--22--41. Reg. No. 8,322.

PAT. 2,235,493. Vehicle windshield wiper. Patented Mar. 18, 1941.
This patent shows a revolving windshield wiper (driven by an electric motor) mounted above the windshield. The wiper is provided with a spring and cam arrangement so that a pair of arms carrying rubber blades will move outwardly to contact the glass. When idle the arms and blades lie above and parallel to the windshield. In operation the blades revolve at such high velocity as to become substantially invisible to the driver. (Owner) Oscar Dobkin, 2315 Balch St., Akron 3, Ohio. Groups 33--59; 38--31. Reg. No. 8,323.

PAT. 2,416,413. Micrometer lap and guide. Patented Apr. 1, 1947.
A device for polishing or lapping the spindle and anvil ends of a micrometer to true one with the other. The device consists of a lapping tool, the face of which is recessed to receive smooth and rough abrasive as well as oil for the lapping process. To insure trueness, the lapping tool is used in combination with guides which are secured to the spindle and anvil of the micrometer by clamping means and adjusted by a screw arrangement. The guides have a rod-like body and circular flanged ends. In use the flanged guides are secured to the spindle by clamps and the spindle rotated until the lapping tool is in position to polish the anvil, etc. The guides may be adapted to various sizes of micrometers. Modifications shown. (Owner) Ben W. Lance, 602 Illinois St., Geneva, Ill. Group 35--41. Reg. No. 8,324.

PAT. 1,921,043. Airplane. Patented Aug. 8, 1933.
Group 37--21--22. Reg. No. 8,325.

PAT. 1,964,179. Airplane. Patented June 26, 1934.
Group 37--21--22. Reg. No. 8,326.

These two patents relate to airplanes which may be operated to lift vertically, travel horizontally, hover, etc., by means of a series of vaned rotors which replace the usual wing structure. Patent 1,921,043 shows a plane having front and rear rotors as well as a series of rotors on each side of the fuselage. Each rotor is motorized, the series at each side being governed as a unit. Air is drawn through the rotors and forced out the back at high speed. Tilting may be effected by increasing the rate of rotation of the rotors at one side and decreasing it at the other side. Front and rotors propel the plane in a forward direction and when tilted aid in raising the plane vertically. Two pairs of control rotors at the rear, one rotatable on a vertical axis, the other on a horizontal axis, are capable of varying the slope on which the plane moves. The plane described in Patent 1,964,179 utilizes three discs, the central disc moved at an angle in relation to the others. Each disc is formed with a central air intake opening and an outer peripheral air exhaust. The plane is stabilized by operating all discs at a uniform speed or by varying any one. (Co-owner) William A. Roth, 984 East 9th St., St. Paul 6, Minn.

PAT. 1,994,535. Lighting airways. Patented Mar. 19, 1935.
This patent presents a means by which airfields and other large areas may be illuminated at night by suspending floodlights from anchored balloons. The field is also

bordered with a series of well-protected lights set flush with the ground so that they enable night landing to be made with safety. (Co-owner) William A. Roth, 984 East 5th St., St. Paul 6, Minn. Group 34--81--82. Reg. No. 8,327.

PAT. 2,373,791. Rotary engine. Patented Apr. 17, 1945.
This rotary engine is constructed so that moving parts are minimized and the engine is free of cams, springs and other parts commonly used in engines of this type. A pair of rotors and their pistons are mounted on a power shaft surrounded by a circular cylinder which receives the pistons. Electromagnetic means are used to selectively and alternately lock the rotors to the shaft and to the cylinder. Charging and compressing of fuel is effected by movement of the rotors and their pistons. The transfer of momentum from one rotor to the other not only avoids waste of energy but also brings the decelerating rotor to a stop easily and avoids shocks which otherwise would be sustained if the movement of the decelerating rotor were arrested by mechanical means as distinguished from the magnetic means. (Owner) John B. Stewart, 4961 McPherson Ave., St. Louis 8, Mo. Groups 35--12; 36--19--41. Reg. No. 8,326.

PAT. 2,412,037. Water control for spigots, etc. Patented Dec. 3, 1946.
Combined thermostat and valve assembly for installation with hot and cold water pipes of basins, showers, etc., automatically controls the flow of either hot or cold water, or a mixture of both. In making a selection it is necessary only to set a pointer relative to temperature desired as indicated on a disc. A thermostat casting is detachably connected to the stem of a substantially T-shaped inverted valve casing. The thermostat is connected to a cylindrical rotary valve sleeve and pointer on the disc. This valve sleeve (which has a transverse partition at its center) is provided with openings adapted to coincide with the openings of two opposed sleeves which surround opposite ends of the valve sleeve and control the admission of hot and cold water into the valve casing. The assembly may be installed so that only the disc and pointer are exposed to view. (Owner) Landon W. Ferrell, 2516 Magnolia Ave. #4, Knoxville 15, Tenn. Group 33--61--62. Reg. No. 8,329.

PAT. 2,333,714. Pencil sharpener. Patented Nov. 9, 1943.
Sharpener is tubular in shape and adapted to constitute a removable attachment for an ordinary pencil. One end of the sharpener is enclosed by an eraser. A blade, secured at opposite ends of the tube extends diagonally through the sharpener. A pocket clip and a window for viewing the interior of the tube may be provided. (Owner) Philip Fletcher, 805 Bergen St., Newark 1, N. J. Groups 33--51; 39--51; 40. Reg. No. 8,330.

PAT. 2,359,261. Pipe-laying tool. Patented Sept. 26, 1944.
Hand tool for use in the laying of culvert or similar pipe sections in trenches. Tool, made of pipe, comprises a T-shaped tubular member with the stem elongated to form a handle and an upright tubular socket welded to the handle rearwardly of the cross arms of the T. Two removable inserts are utilized with the tool. The inserts are slid inside the socket and arms and project beyond the ends of the arms and above the socket. In use the ends of the inserts contact the interior surfaces of a pipe section, or two sections, and the arms oscillate about their insert. Inserts of different size may be used to adapt the tool to pipes of different diameter. Two workmen, each using a tool, may safely carry a section of pipe between them. (Owner) Robert L Taylor, Waverly, Tenn. Groups 33--52; 35--31. Reg. No. 8,331.

PAT. 2,416,654. Scarifier. Patented Feb. 25, 1947.
A detachable attachment for use with the blades of road scrapers, graders, etc. Includes a concavo-convex elongated supporting body having the same curvature as the scraper blade to which it is attached. Scarifying tools are attached in sockets of extensions on frame structure and extend below frame and blade. (Owner) Robert L. Taylor, Waverly, Tenn. Group 35--31. Reg. No. 8,332.

PAT. 2,351,627. Cutting tool. Patented June 20, 1944.
Tool (a tap for example) is designed so that it may be easily removed should it break, regardless of the extent to which the broken part is lodged in the work. The tool is provided with an axial bore, polygonal in cross section. A correspondingly shaped core of relatively tough metal is tightly fitted in the bore. The broken tool is easily backed out by turning the core in reverse direction. The core also reinforces the tool. (Owner) Joseph S. McAllister, 1811 Charlton, Ann Arbor, Mich. Groups 33--51--52; 35--43. Reg. No. 8,333.

PAT. 1,897,552. Mail bag ejecting device. Patented Feb. 14, 1933.
Device is designed to throw a mail bag from one moving car into another car moving in an opposite direction. The device is made up of a pair of rectangular box-like structures hingedly connected, so that it may be projected in extended position through the open door of one car into close proximity to the door of the other car. When in extended position a finger of the device engages a member on the other car to actuate a trip mechanism of a spring-actuated plunger which forcibly throws the bag into the oppositely moving car. The device may be folded in superposed relationship to provide for compactness and facilitate storage in the delivery car when not in use. (Owner) Ruth Beam. Address correspondence to J. B. Milham, Parker Building, Benton, Ark. Groups 33--83; 35--69--79. Reg. No. 8,334.

PAT. 2,418,439. Fluid motor. Patented Apr. 1, 1947.
Fluid motor is adapted to be operated by the rise and fall of waves. The combination of a pair of motors is used to drive a shaft in the same direction. The motors are constructed so that one is driven by water flowing upwardly while the other one is driven by water flowing downwardly. The casing of each motor is provided with an upper and a lower chamber having a helical passage in the lower chamber. A runner about the passage is arranged to be driven by liquid revolving in the passage during its progress therethrough. (Owner) Reverend Francis M. Wetherill, S. T. D., 3012 West Coulter St., Philadelphia 29, Pa. Group 35--11-69. Reg. No. 8,335.

PAT. 2,412,415. Combination umbrella and cape. Patented Dec. 10, 1946.
Garment-like combination cape and umbrella of transparent or other material hangs from the shoulders of the wearer in bell-like fashion and extends below the waist to permit perfect freedom of movement. The garment is zippered and readily extensible or collapsible. A lazy-tongs arrangement around the lower edge of the garment may be releasably locked in extended position. A hood is attached to the cape and may be raised for protection of the wearer's head. When collapsed, the cape may be conveniently carried in the handbag or pocket. (Owner) Haimi Navon, 570 Westminster Rd., Brooklyn, N. Y. Groups 23--39; 39--95. Reg. No. 8,336.

PAT. 2,415,216. Garment hanger. Patented Feb. 4, 1947.
Combination hanger and shield prevents dresses, etc., cut with wide neck lines from slipping off hanger and protects garments from dust. A conventional type wooden hanger has clamping arms which carry a fabric shield that covers the upper portion of a suspended garment. The shield is transversely split so that it pivots upwardly with the clamping arms as a unit to permit a garment to be slipped on or off the hanger. Modifications shown. (Owner) Haimi Navon, 570 Westminster Rd., Brooklyn, N. Y. Groups 23--41--99; 33--49. Reg. No. 8,337.

PAT. 2,218,910. Automatic safety control for motor propelled vehicles. Patented Oct. 22, 1940.
This emergency device for attachment to motor vehicles automatically applies brakes and disengages clutch in event of a blowout or flat. An independent electric motor is operatively connected to the pedals of foot brake and clutch. Identical bracket assembles each carrying a small trailing wheel for each wheel of the vehicle are adapted to be separately clamped to the vehicle axles. Each trailing wheel is carried by a curved arm adjustably mounted on the lower end of a vertical lever pivotally supported by the bracket. The top hooked end of lever extends above a push button switch mounted in the bracket. Should any tire become deflated the adjacent trailing wheel contacts the ground causing hooked end of lever to depress the push-button switch, closing a circuit whereby the electric motor is energized to apply brakes and disengage clutch. (Owner) Alvin A. Hill, 43 East 2nd St., Clifton, N. Y. Groups 36--41; 38--31. Reg. No. 8,338.

PAT. 2,268,625. Method and means for applying reinforcing strip or tape. Patented Jan. 6, 1942.
A high speed machine for applying reinforcing tape to the edges of index cards, loose leaf or data sheets and the like. The construction provides opposed pressure members, one of which is rotatable, an abutment at one side of the members, and a feeding disc associated with and frictionally driven by the rotatable pressure member. The sheet and folded gummed strip are synchronously fed into the machine, the sheet being urged laterally into close edge contact with the inner surface of the bight of the strip while pressure is applied causing the folded strip to adhere to the opposite faces of the sheet. (Owner) Man-Sew Corporation, 121 West 27th St., New York, N. Y. Groups 27--83--89; 35--59. Reg. No. 8,339.

PAT. 2,268,626. Pinking shears. Patented Jan. 6, 1942.
The body of the pinking shears is formed of "Bakelite" or like moldable composition. A cutting element of sheet steel is firmly embedded in each blade and includes a beveled cutting edge having a longitudinal succession of V-shaped teeth arcuately curved across the width of each plate. In cutting cloth, portions of one blade enter the depressions of the other so that notches are left in the edge of the cloth. The construction results in a shears light in weight and inexpensive to manufacture. (Owner) Man-Sew Corporation, 121 West 27th St., New York, N. Y. Groups 33--51; 39--81. Reg. No. 8,340.

PAT. 2,413,014. Means for threading needles. Patented Dec. 24, 1946.
A needle threading attachment for single or multiple needle sewing machines in which thread is pneumatically drawn through the eye of a needle. A rubber tubing is connected at one end to a rotatable valve mounted on the needle bar guide head. When operative the valve connects the tube to a source of vacuum, the opening at the opposite end of the tube registering with the needle eye when the tube is swung downwardly. A wing at the side of the needle guides the thread into the eye. When not in use the tube may be swung upwardly so that the vision of the worker is unobstructed. The device overcomes loss of time due to thread breakage in the operation of industrial sewing machines. (Owner) Man-Sew Corporation, 121 West 27th St., New York, N. Y. Group 35--83. Reg. No. 8,341.

Government Owned Patent

The following patent, owned by the United States Government, as represented by the Secretary of the Interior, is available for licensing upon a non-exclusive, royalty-free basis:

PAT. 2,419,945. Froth flotation of silica from iron ore. Patented May 6, 1947.
This patent describes the preparation (for smelting) of iron ore containing calcareous and siliceous impurities. Gangue is floated from the pulverized iron oxide by adding hydrated lime (10.5 to 41.8 pounds per ton) to establish a pulp pH of about 12 by substantially saturating the pulp with dissolved lime. An anion-active collecting agent such as tallol or oleic acid is added, and the pulp subjected to agitation and aeration so that the siliceous gangue is floated and the concentrated iron ore recovered in the usual way. Groups 28--12; 32--95. Reg. No. 8,342.

Regulations under which licenses are granted are issued by the Secretary of the Interior. Applications for licenses should be made to the Solicitor, Department of the Interior, Washington 25, D. C.

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For abstract, see this Bibliography, v. 3, p. 631.
An English translation.

PB L 40854-T. FIKENTSCHER and others. Progress in the preparation of M. P. material (vinyl chloride copolymers). Feb 1934. 3 p. Washington, D. C., U. S. Department of Commerce, Office of Technical Services. Price: 25¢
For abstract, see this Bibliography, v. 3, p. 629.
An English translation.

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An English translation.

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PB L 81655. U. S. OFFICE OF TECHNICAL SERVICES. Formulae for making non-slippery, self-polishing floor wax. (Tech Advisory Service Rept 19.7) Feb 1947. 2 p. Washington, D. C. Price: Mimeo - 10¢

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